

***Agathidium* from Sumatra, Java and Borneo (Coleoptera, Leiodidae, Anisotomini)**

Fernando ANGELINI* & Luigi DE MARZO**

* S.S.7 per Latiano, Km. 0,500, I-72021 Francavilla Fontana, (Brindisi) Italy

** Dipartimento di Biologia, Difesa e Biotecnologie agro-forestali,

Università della Basilicata,

Via Nazarino Sauro 85, I-85100 Potenza, Italy

***Agathidium* from Sumatra, Java and Borneo (Coleoptera, Leiodidae, Anisotomini)** – Field and taxonomical data are reported on 867 specimens, 44 species, from 77 localities in Sunda Islands (Sumatra, Java and Borneo), and a general key to the species of Anisotomini from these islands are presented.

Species new to science (35 spp.): *A. luctuosum* n. sp. (Sabah), *A. montivagum* n. sp. (Sumatra), *A. subobscurum* n. sp. (Sumatra), *A. agostii* n. sp. (Java), *A. montuosum* n. sp. (Sumatra), *A. illustre* n. sp. (Sumatra), *A. interruptum* n. sp. (Sabah), *A. xerampelinum* n. sp. (Sabah), *A. sabahense* n. sp. (Sabah), *A. loeblianum* n. sp. (Sabah), *A. indefinitum* n. sp. (Sabah), *A. aeternum* n. sp. (Sabah), *A. aequalis* n. sp. (Sabah), *A. optatum* n. sp. (Sabah), *A. malignum* n. sp. (Sabah), *A. crockerense* n. sp. (Java and Sabah), *A. quadrimaculatum* n. sp. (Sabah), *A. nebulosum* n. sp. (Sabah), *A. abiectum* n. sp. (Sumatra), *A. abruptum* n. sp. (Sabah), *A. argutum* n. sp. (Sabah), *A. limatum* n. sp. (Sabah), *A. kinabaluense* n. sp. (Sabah), *A. amplum* n. sp. (Sabah), *A. fumosum* n. sp. (Sumatra), *A. opulentum* n. sp. (Sumatra and Java), *A. mirificum* n. sp. (Sumatra), *A. insolitum* n. sp. (Java), *A. jambicum* n. sp. (Sumatra), *A. vulneratum* n. sp. (Sumatra), *A. monticola* n. sp. (Java), *A. javanicum* n. sp. (Java), *A. rufoatrum* n. sp. (Sabah), *A. nitidum* n. sp. (Java), *A. tersum* n. sp. (Sumatra).

New records from Sumatra: *A. watrousi* Ang. *A. wheeleri* Ang., *A. darbyi* Ang. & Coot., *A. hammondi* Ang. & Coot.

New records for Sabah: *A. arcuatum* Ang. & Coot., *A. darbyi* Ang. & Coot., *A. modiglianii* Ang., *A. laticorne* Port., *A. puncticolle* Coot., *A. hammondi* Ang. & Coot., *A. angelinii* Coot.

There are figured: the male copulatory organ and male hind femur of *A. arcuatum* Ang. & Coot. and *A. darbyi* Ang. & Coot., the spermatheca of *A. modiglianii* Ang. and *A. puncticolle* Coot.

Key-words: Coleoptera - Leiodidae - Anisotomini - *Agathidium* - Sunda Islands.

INTRODUCTION

A large amount of material is described here, which was gathered during expeditions of both the Geneva Natural History Museum researchers and Dr A. Smetana in:

- Borneo, Sabah, 26 localities, 23.IV-26.V.1987, leg. Burckhardt & Löbl, 291 specimens, 19 species;
- Borneo, Sabah, 31 localities, 24.IV-23.V.1987 and 3.VIII-5.IX.1988, leg. Smetana, 302 specimens, 21 species;
- Sumatra and Java, 20 localities, 3.XI-3.XII.1989, leg. Burckhardt, Löbl & Agosti, 274 specimens, 22 species.

This sensibly improves our knowledge of the genus *Agathidium* in the larger Sunda Islands, as it includes as many as 35 species new to science, together with new records for both Sumatra and Sabah.

Previous knowledge from Sunda Islands includes 5 species reported in the HLISNIKOVSKY'S revision (1964), *A. laticorne* Port. (Sumatra), *A. grouvellei* Port. (Java), *A. insulare* Port. (Java) *A. celebense* Port. (Sulawesi) and *A. antennatum* Hlisl. (Sarawak), and a number of further new descriptions and records (29 spp.) of *Agathidium*, *Afroagathidium* and *Liodopria*, which were recently presented by ANGELINI & DE MARZO (1984), COOTER (1984), ANGELINI & COOTER (1985; 1986; 1992) and ANGELINI (1991; 1992; in press). Nowadays, including the present paper, as many as 70 species of Anisotomini are recorded from the Sunda Islands, as the general key here enclosed shows.

We are indebted to Drs Claude Besuchet and Ivan Löbl (Geneva) and to Dr Ales Smetana (Ottawa) for the loan of the described material and their assistance in editing this report.

MATERIAL AND SYMBOLS

Types and other specimens are deposited in the Geneva Natural History Museum and in Angelini's collection.

Symbols used in the text:

AC = Angelini's collection

MHNG = Geneva Natural History Museum

W/L = ratio width/length

W/H = ratio width/height

leg. BL = leg. Burckhardt & Löbl

leg. BLA = leg. Burckhardt, Löbl & Agosti

KEY TO THE TAXA OF ANISOTOMINI FROM THE SUNDA ISLANDS

- | | | |
|----|--|---|
| 1 | Antennal club 4-segmented. - GENUS <i>Afroagathidium</i> Ang. & Peck | |
| | <i>sarawakense</i> Ang. & Coot. | |
| 1' | Antennal club 3-segmented | 2 |

- 2 Antennal segments 4-10 enlarged at their internal side; supraocular carina absent. -
GENUS *Liadopria* Reitt 3
- 3 Antennae 10-segmented; 3rd antennal segment shorter than the 2nd. Sulawesi
..... *wallacei* Ang. & Coot.
- 3' Antennae 11-segmented; 3rd antennal segment twice as long as the 2nd. Sulawesi
..... *sulawesis* Ang. & Coot.
- 2' Antennal segments not enlarged at their internal side; supraocular carina present. -
GENUS *Agathidium* Panzer 4
- 4 Metasternum without femoral lines; lateral outline of elytra with sharp humeral angle. -
SUBG. *Neoceble* Gozis. Java *angulatum* Ang.
- 4' Metasternum with femoral lines; lateral outline of elytra with weak humeral angle
..... 5
- 5 Eyes flat or moderately protuberant, not emispherical; clypeal line either absent or
unbroken and not raised up. - SUBG. *Agathidium* s. str. 6
- 6 Clypeus not raised up at its anterior margin. - GROUP *dentatum*. Sarawak
..... *collinsi* Ang. & Coot.
- 6' Clypeus raised up at its anterior margin. - Group *madurensis*. 7
- 7 Dorsum microreticulate 8
- 8 Antennae with segments 4-11 black; dorsum black. Sabah *luctuosum* n. sp.
- 8' Antennae with segments 9-10 dark; dorsum reddish-brown 9
- 9 Body length: 3,0-3,2 mm; 3rd antennal segment 1,7 times as long as the 2nd; male hind
femora untoothed. Malaya, Sumatra *watrousi* Ang.
- 9' Body length: 2,6-2,8 mm; 3rd antennal segment 1,5 times as long as the 2nd; male hind
femora toothed. Malaya, Sumatra *wheeleri* Ang.
- 7' Dorsum not microreticulate 10
- 10 Antennae without darker segments 11
- 11 Body length: 2,8-3,0 mm; male hind femora toothed; width ratio pronotum/head = 1,65.
Sarawak *marshalli* Ang. & Coot.
- 11' Body length: 2,5-2,8 mm; male hind femora untoothed; width ratio pronotum/head =
1,55. Sumatra *montivagum* n. sp.
- 10' Antennae with segments 9-10 or whole club dark 12
- 12 3rd antennal segment 1,7 times as long as the 2nd. Java *calvum* Ang.
- 12' 3rd antennal segment 1,15-1,40 times as long as the 2nd 13
- 13 Dorsum reddish-brown. Sumatra *inelegans* Ang.
- 13' Whole dorsum black 14
- 14 Antennal club entirely black. Sumatra *nefandum* Ang.
- 14' Antennal club with segment 11 light, at least in its apical half 15
- 15 3rd antennal segment 1,4 times as long as the 2nd; lateral lines of mesosternum present.
Sumatra *subobscurum* n. sp.
- 15' 3rd antennal segment 1,15 times as long as the 2nd; lateral lines of mesosternum absent.
Java *agostii* n. sp.
- 5' Eyes emispherical; clypeus with one short groove at each side or with a posterior crest
either continuous or interrupted at middle 16
- 16 Head comparatively large: width ratio pronotum/head = 1,5-1,6. - SUBG. *Euryceble*
Hlisl. 17
- 17 Clypeus with one short groove at each side (as in fig. 5); head sculptured only on
clypeus; 3rd antennal segment 1,95 times as long as the 2nd. Sumatra
..... *montuosum* n.sp.
- 17' Clypeus with a continuous posterior crest (as in fig. 4); whole head dorsum reticulate or
striolate; 3rd antennal segment 1,0-1,6 times as long as the 2nd 18
- 18 Head striolate; body length: 3,35-3,7 mm. Sumatra *illustre* n. sp.
- 18' Head microreticulate; body length: 2,75-3,05 mm 19
- 19 Antennal club not dark; body length: 2,75 mm. Sarawak *antennatum* Hlisl.
- 19' Antennal club dark; body length: 3,0-3,05 mm. 20

20	3rd antennal segment as long as the 2nd; elytra without microreticulation. Sarawak	<i>capito</i> Ang.
20'	3rd antennal segment 1,6 times as long as the 2nd; elytra with some traces of microreticulation. Papua (New Guinea)	(<i>papuasicum</i> Ang.)
16'	Head comparatively small: width ratio pronotum/head = 1,7-2,1. - SUBG. <i>Microceble</i> Ang. & Dmz	21
21	Clypeus with a posterior crest, either continuous or interrupted at middle. - GROUP <i>maculatum</i>	22
22	Part of dorsum microreticulate	23
23	Clypeal crest interrupted at middle (as in fig. 2-3)	24
24	Antennae with segments 9-10 black. Sabah.	<i>interruptum</i> n. sp.
24'	Antennae with light club.	25
25	3rd antennal segment 0,9 times as long as the 2nd; body length: 2,5-3,15 mm; pronotum only with traces of microreticulation	<i>arcuatum</i> Ang. & Coot.
25'	3rd antennal segment 1,3 times as long as the 2nd; body length: 2,15-2,5 mm; pronotum with distinct microreticulation	<i>xerampelinum</i> n. sp.
23'	Clypeal crest continuous (as in fig. 4)	26
26	3rd antennal segment shorter than the 2nd	27
27	Head microreticulate; pronotum and elytra without microreticulation; male hind femora not enlarged; aedeagus apex narrowing (fig. 55). Sabah	<i>sabahense</i> n. sp.
27'	Whole dorsum with traces of microreticulation; antennae not darker at club; male hind femora enlarged distally (fig. 25); aedeagus apex enlarged (fig. 57). Sabah	<i>loeblianum</i> n. sp.
26'	3rd antennal segment as long as the 2nd or longer	28
28	Antennae with segment 11 black	29
29	3rd antennal segment 1,2 times as long as the 2nd; width ratio pronotum/head = 1,85; body length: 2,4-2,45 mm; aedeagus apex not excavate (fig. 59). Sabah	<i>indefinitum</i> n. sp.
29'	3rd antennal segment 1,5 times as long as the 2nd; width ratio pronotum/head = 1,75; body length: 2,95 mm; aedeagus apex excavate. Sarawak	<i>magnificum</i> Ang.
28'	Antennae with segment 11 light	30
30	Antennal segments 8-10 black; 3rd antennal segment 1,45 times as long as the 2nd; body length: 3,0 mm; male hind femora untoothed; male copulatory organ with parameres enlarged at apex (fig. 72). Sabah	<i>aeternum</i> n. sp.
30'	Antennal segments 8-10 not black; 3rd antennal segment as long as the 2nd; body length: 2,45-2,6 mm; male hind femora with pronounced tooth (fig. 61); male copulatory organ with parameres gently narrowing towards apex (fig. 75). Sabah	<i>aequalis</i> n. sp.
22'	Whole dorsum without microreticulation	31
31	Clypeal crest interrupted at middle. Sulawesi	<i>wallacei</i> Ang. & Coot.
31'	Clypeal crest uninterrupted (as in fig. 4)	32
32	Antennae without darker segments	33
33	Body length: 2,90 mm; dorsum black, sometimes with reddish humeral spots; aedeagus apex moderately excavate. Sarawak	<i>kuchingense</i> Ang.
33'	Body length: 2,60 mm; dorsum reddish-brown; aedeagus apex rounded. Sarawak	<i>maculatum</i> Ang. & Coot.
32'	Antennae with club segments darker	34
34	3rd antennal segment 1,4 times as long as the 2nd. Sabah	<i>optatum</i> n. sp.
34'	3rd antennal segment 0,6-1,1 times as long as the 2nd	35
35	3rd antennal segment shorter than the 2nd	36
36	3rd antennal segment 0,75 times as long as the 2nd; width ratio pronotum/head = 1,75; metathoracic wings absent; male hind femora with a large tooth (fig. 63); whole dorsum reddish-brown. Sabah	<i>malignum</i> n. sp.
36'	3rd antennal segment 0,6 times as long as the 2nd; width ratio pronotum/head = 1,9; metathoracic wings present; male hind femora with weak tooth (fig. 64); dorsum either entirely black or reddish-brown at head. Sabah	<i>crockerense</i> n. sp.

35'	3rd antennal segment as long as the 2nd or longer	37
37	Antennae black at segments 8-10. Sabah	<i>quadrimaculatum</i> n. sp.
37'	Antennae black at segments 9-10	38
38	Width ratio pronotum/head = 1,85; male hind femora broadly enlarged, untoothed (fig. 66). Sabah	<i>nebulosum</i> n. sp.
38'	Width ratio pronotum/head = 1,7; male hind femora with a weak tooth (fig. 67). Sumatra	<i>abiectum</i> n. sp.
21'	Clypeus without a posterior crest, with one short groove at each side (as in fig. 5)	39
39	Dorsum either entirely or in part microreticulate. - GROUP <i>grouvellei</i>	40
40	Pronotum microreticulate	41
41	Antennae without darker segments	42
42	Head at most with traces of sculpture. Sarawak, Philippines	<i>sarawakense</i> Ang. & Coot.
42'	Head distinctly microreticulate or striolate	43
43	Head microreticulate; width ratio pronotum/head = 1,9; antennal club 3-segmented in males; body length: 2,0-2,5 mm. Sabah	<i>abruptum</i> n. sp.
43'	Head striolate; width ratio pronotum/head = 1,7; antennal club 4-segmented in males; body length: 2,9 mm. Philippines	<i>cooteri</i> Ang. & Dmz.
41'	Antennae with some darker segments	44
44	Antennal segments 9-11 darker	45
45	3rd antennal segment 1,3 times as long as the 2nd. Philippines, Tai Wan	<i>puncticolle</i> Coot.
45'	3rd antennal segment 1,8-2 times as long as the 2nd	46
46	Body length: 3,40 mm; dorsum black. Sumatra	<i>luridum</i> Ang.
46'	Body length: 2,70-3,30 mm; dorsum reddish-brown	47
47	Pronotum with distinct microreticulation; body length: 3,1-3,3 mm. Philippines, Sarawak	<i>darbyi</i> Ang. & Coot.
47'	Pronotum with very weak microreticulation; body length: 2,7-3,1 mm. Sulawesi	<i>darbyi</i> ssp. <i>sulawesicum</i> Ang. & Coot.
44'	Antennal segments 7-10 darker	48
48	3rd antennal segment 1,2 times as long as the 2nd; spermateca as in fig. 114. Sabah	<i>argutum</i> n. sp.
48'	3rd antennal segment 1,5 times as long as the 2nd; spermatheca as in fig. 115. Sabah	<i>limatum</i> n. sp.
40'	Pronotum not microreticulate	49
49	Head striolate, either entirely or only at its anterior part	50
50	Head striolate only at its anterior part. Sumatra	<i>modiglianii</i> Ang.
50'	Head entirely striolate	51
51	Antennae without darker segments. Sulawesi	<i>asiaticum</i> Ang. & Coot.
51'	Antennae with darker segments	52
52	Antennae darker only at segments 6-8. Sabah	<i>kinabaluense</i> n. sp.
52'	Antennae darker only at segments 6-10 or 7-10 or 8-10 or 9-10	53
53	Antennae darker at segments 6-10. Sabah	<i>amplum</i> n. sp.
53'	Antennae darker only at segments 7-10 or 8-10 or 9-10	54
54	Antennae darker at segments 7-10	55
55	3rd antennal segment 1,5 times as long as the 2nd; body length: 2,4-2,7 mm. Sumatra	<i>fumosum</i> n. sp.
55'	3rd antennal segment 1,35 times as long as the 2nd; body length: 3,0-3,35 mm. Sumatra	<i>opulentum</i> n. sp.
54'	Antennae darker at segments 8-10 or 9-10	56
56	Antennae darker at segments 8-10	57
57	Width ratio pronotum/head = 2,1. Burma, Sumatra	<i>grouvellei</i> Port.
57'	Width ratio pronotum/head = 1,7-1,8	58
58	Whole dorsum reddish-brown; aedeagus apex deeply excavate; male antennae 3-segmented. Sumatra	<i>poggii</i> Ang.

58'	Head and elytra reddish-brown, pronotum black; aedeagus apex not excavate; male antennae 4-segmented. Philippines	<i>deharvengi</i> Ang.
56'	Antennae darker at segments 9-10	59
59	3rd antenna segment 1,7-1,9 times as long as the 2nd	60
60	3rd antennal segment 1,7 times as long as the 2nd; head and pronotum with sparse puncturation. SE Asia	<i>laticorne</i> Port.
60'	3rd antennal segment 1,9 times as long as the 2nd; head and pronotum with dense puncturation. Sumatra	<i>mirificum</i> n. sp.
59'	3rd antennal segment 1,35-1,5 times as long as the 2nd	61
61	Dorsum black; lateral outline of pronotum broadly bent; spermatheca as in fig. 167. Java	<i>insolitum</i> n. sp.
61'	Dorsum reddish-brown; lateral outline of pronotum with sharp angle; spermatheca as in fig. 168. Sumatra	<i>jambicum</i> n. sp.
49'	Head striolate only on clypeus	62
62	Antennae without black segments. Sumatra	<i>vulneratum</i> n. sp.
62'	Antennae with dark club	63
63	Aedeagus apex bifurcate (fig. 152); spermatheca as in fig. 170. Sumatra	<i>monticola</i> n. sp.
63'	Aedeagus apex trifurcate (fig. 155); spermatheca as in fig. 171. Sumatra	<i>javanicum</i> n. sp.
39'	Whole dorsum without microreticulation. <i>Group andrewesi</i>	64
64	3rd antennal segment as long as the 2nd. Malaya, Singapore, Sumatra, Sarawak	<i>hammondi</i> Ang. & Coot.
64'	3rd antennal segment 1,2-1,65 times as long as the 2nd	65
65	Antennae with segment 11 dark	66
66	Antennae darker at segments 6-11. Sabah	<i>rufotratum</i> n. sp.
66'	Antennae darker only at segments 9-11	67
67	Width ratio pronotum/head = 1,95; body length: 2,65 mm. Sumatra ...	<i>minusculum</i> Ang.
67'	Width ratio pronotum/head = 1,8; body length: 2,0-2,5 mm. Philippines, Sabah	<i>angelinii</i> Coot.
65'	Antennae with segment 11 not dark	68
68	3rd antennal segment 1,6 times as long as the 2nd. Java	<i>nitidum</i> n. sp.
68'	3rd antennal segment 1,15-1,3 times as long as the 2nd	69
69	Body length: 2,0-2,3 mm. Sumatra	<i>tersum</i> n. sp.
69'	Body length: 2,3-2,8 mm	70
70	Aedeagus apex gently narrowing. Sumatra	<i>sumatrense</i> Ang. Dmz.
70'	Aedeagus apex abruptly narrowing	71
71	Pronotum puncturation distinct. Sumatra	<i>mentawaicum</i> Ang.
71'	Pronotum with very small punctures. Sulawesi	<i>celebensse</i> Port.

Agathidium (s. str.) luctuosum n. sp.

Figs 1, 6, 15, 27, 28, 42

Length 3,0-3,5 mm (holotype ♂: 3,05 mm). Whole dorsum black, venter black; antennae darker at segments 4-11; legs reddish-brown. Head and pronotum with superficial, uniform microreticulation, elytra with traces of microreticulation; whole dorsum finely punctured.

H e a d : Microreticulation very superficial, uniform, poorly distinct; punctures small, superficial, spaced from each other by 1-5 times their own diameter. Clypeal line absent (fig. 1); antero-lateral margins distinctly raised up. 3rd antennal segment 1,4 times as long as the 2nd and as long as the 4th+5th; Hamann's organ: gutter with one vesicle in both 9th and 10th antennal segments.

TABLE I

List of the Anisotomini known from the Sunda Islands (to be continued).

Liodopria

wallacei Ang. & Coot.	Sulawesi
sulawesis Ang. & Coot.	Sulawesi

Afroagathidium

sarawakense Ang. & Coot.	Sarawak
-------------------------------	---------

Agathidium - subg. Neoceble

angulatum Ang.	Java
---------------------	------

Agathidium - subg. A. s.str. - dentatum group

collinsi Ang. & Coot.	Sarawak
----------------------------	---------

Agathidium - subg. A. s.str. - madurensis group

luctuosum Ang. & Dmz.	Sabah
watrousi Ang.	Sumatra ... Malaya
wheeleri Ang.	Sumatra ... Malaya
marshalli Ang. & Coot.	Sarawak
montivagum Ang. & Dmz.	Sumatra
subobscurum Ang. & Dmz.	Sumatra
nefandum Ang.	Sumatra
inelegans Ang.	Sumatra
agostii Ang. & Dmz.	Java
calvum Ang.	Java

Agathidium - subg. Euryceble

montuosum Ang. & Dmz.	Sumatra
illustre Ang. & Dmz.	Sumatra
capito Ang.	Sarawak
antennatum Hiisn.	Sarawak

Agathidium - subg. Microceble - maculatum group

interruptum Ang. & Dmz.	Sabah
arcuatum Ang. & Coot.	Sabah ... Sarawak
xerampelinum Ang. & Dmz.	Sabah
sabahense Ang. & Dmz.	Sabah
loeblianum Ang. & Dmz.	Sabah
indefinitum Ang. & Dmz.	Sabah
magnificum Ang.	Sarawak
aeternum Ang. & Dmz.	Sabah
aequalis Ang. & Dmz.	Sabah
wallacei Ang. & Coot.	Sulawesi
kuchingense Ang.	Sarawak
maculatum Ang. & Coot.	Sarawak
optatum Ang. & Dmz.	Sabah
malignum Ang. & Dmz.	Sabah
crockerense Ang. & Dmz.	Sabah ... Sumatra ... Java
quadrinaculatum Ang. & Dmz.	Sabah
nebulosum Ang. & Dmz.	Sabah
abjectum Ang. & Dmz.	Sumatra

Agathidium - subg. Microceble - grouvellei group

sarawakense Ang. & Coot.	Sarawak ...	Philippines
abruptum Ang. & Dmz.		Sabah
luridum Ang.		Sumatra
darbyi darbyi Ang. & Coot.	Sabah ... Sarawak ...	Sumatra ... Philippines
darbyi sulawesicum Ang. & Coot.		Sulawesi
argutum Ang. & Dmz.		Sabah
limatum Ang. & Dmz.		Sabah
modiglianii Ang.		Sumatra
esiaticum Ang. & Coot.		Sulawesi
kinabaluense Ang. & Dmz.		Sabah
emplum Ang. & Dmz.		Sabah
fumosum Ang. & Dmz.		Sumatra
opulentum Ang.		Sumatra
grouvellei Port.	Sumatra ...	Burma
poggii Ang.		Sumatra
laticorne Port.	Sabah ... Sarawak ...	Sumatra ... Java ... SE Asia
mirificum Ang. & Dmz.		Sumatra
insolitum Ang. & Dmz.		Java
jambicum Ang. & Dmz.		Sumatra
vulneratum Ang. & Dmz.		Sumatra
puncticolle Coot.	Sabah ...	Philippines ... Tai Wan
monticola Ang. & Dmz.		Java
javanicum Ang. & Dmz.		Java

Agathidium - subg. Microceble - andrewesi group

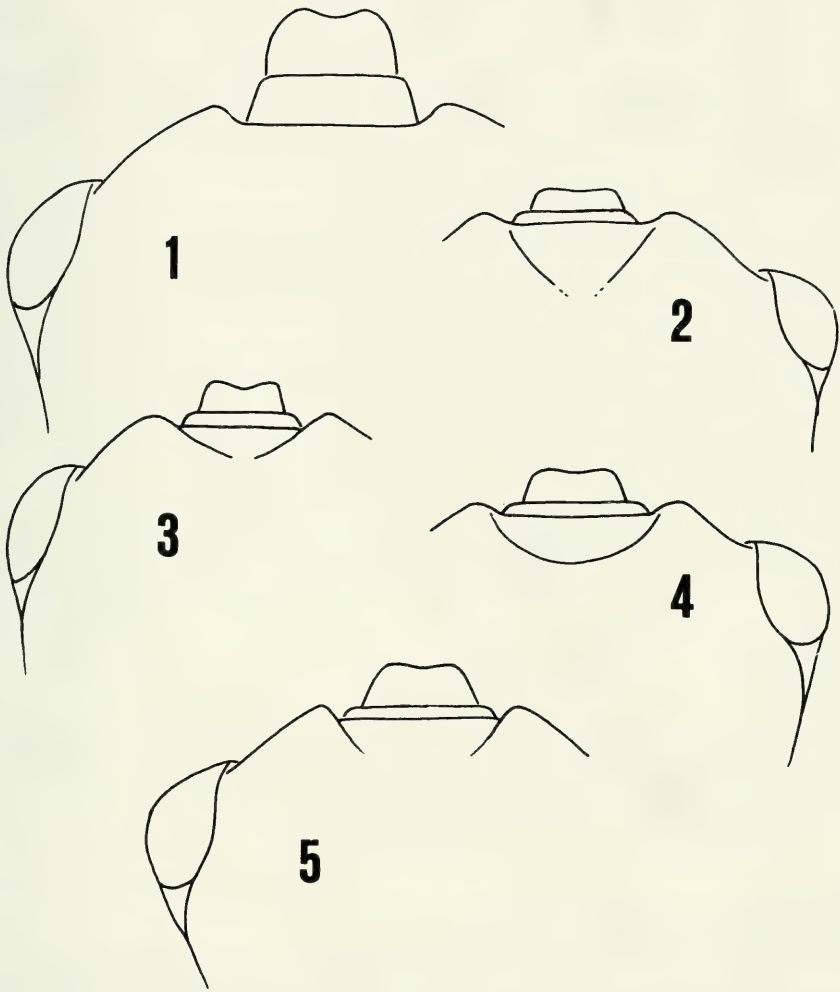
hammondi Ang. & Coot.	Sabah ... Sarawak ...	Singapore
rufotrum Ang. & Dmz.		Sabah
minusculum Ang.		Sumatra
angelinii Coot.	Sabah ...	Philippines
nitidum Ang. & Dmz.		Java
tersum Ang. & Dmz.		Sumatra
sumatrense Ang. & Dmz.		Sumatra
mentawaicum Ang.		Sumatra
celebense Port.		Sulawesi

Agathidium - subg. Microceble - incertae sedis

insulare Port.		Java
---------------------	--	------

Pronotum: Microreticulation more distinct than that of head; puncturation as that of head; 1,9 times as broad as head; moderately broader than long ($W/L = 1,52$) and moderately convex ($W/H = 1,68$); anterior margin weakly emarginated, lateral outline broadly bent (fig. 6). Holotype: length 1,00 mm, width 1,52 mm, height 0,98 mm.

Elytra: Only traces of microreticulation; punctures larger and more clearly impressed than those of head, distance from each other 3-5 times their own diameter, long and superficial lines are interposed. A little broader than pronotum, as broad as long and moderately convex ($W/H = 1,6$); lateral outline with weak humeral angle; sutural striae absent. Holotype: length 1,45 mm, width 1,57 mm, height 0,90 mm.



FIGS 1-5

Examples of head anterior margin, referred to presence/absence and aspect of the clypeal line: 1, line absent (*A. luctuosum* n. sp.); 2, crest interrupted at middle (*A. interruptum* n. sp.); 3, crest interrupted at middle (*A. xerampelinum* n. sp.); 4, uninterrupted crest (*A. sabahense* n. sp.); 5, line residual: a short groove at each side of clypeus (*A. amplum* n. sp.).

Metathoracic wings present. Meso- and metasternum: median carina present, lateral lines absent, femoral lines incomplete.

Legs: Male hind femora with a subdistal tooth (fig. 15). Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.

Male copulatory organ (figs 27-28): Aedeagus slender, with convolute proximal part, apex broadly bent, bifid ventral piece; parameres gently narrowing towards apex.

Spermatheca (fig. 42): Basal part globose and duct-like; apical part short and bent.

Discussion: *A. luctuosum* n. sp. is very similar to *A. watrousi* Ang. (in press, Malaya and Sumatra) and *A. wheeleri* Ang. (in press, Malaya and Sumatra) in its microreticulation; it differs from these in colour of dorsum and antennae, ratio 3rd/2nd in antennal segments and width ratio pronotum/head.

Holotype ♂: BORNEO, Sabah, Mt Kinabalu, 2600 m, 2.V.1987, leg. BL, N. 6381 in MHNG.

Paratypes: together with the holotype, 1 ♂ N. 6382 in AC; Crocker Range, east side, Kota Kinabalu-Tambunan road, Km 60, 1270 m, 17.V.1987, leg. BL, 1 ♀ N. 6383 in MHNG; Mt Kinabalu Natn. Park, near Laban Rata, 3150 m, 5.V.1987, leg. Smetana, 1 ♀ N. 6384 in MHNG.

Collecting methods: Sifting mosses and plant debris at the foot of old trees and along a large fallen tree in very damp forest.

Distribution: Malaysia (Malaya), Indonesia (Sumatra). New record for Sumatra.

Agathidium (s. str.) **watrousi** Ang.

Agathidium (s. str.) *watrousi* Angelini, in press.

Material: SUMATRA, Aceh, Mt Leusr Natn. Park, Ketambe Res. Stat., 300-500 m, 1 ex., 23-30.XI.1989, leg. BLA, in MHNG.

Collecting methods: Sifting plant debris.

Distribution: Malaysia (Borneo: Sabah).

Agathidium (s. str.) **wheeleri** Ang.

Agathidium (s. str.) *wheeleri* Angelini, in press.

Material: SUMATRA, Jambi, Km 15 road from Sungaipenuh to Tapan, 1450 m, 2 exx., 9.XI.1989, leg. BLA, in MHNG; West Sumatra, Padangpanjan, 600 m, 17.XI.1989, leg. BLA, 1 ♂ in MHNG; Palopo Nat. Res., North Bukittinggi, 900 m, 18-20.1989, leg. BLA, 1 ♂ and 3 ♀ in MHNG and AC; West Sumatra, 5 Km from Payakumbuh, 600 m, 20-21.XI.1989, leg. BLA, 2 ♂ and 2 ♀ in MHNG and AC; Jambi, Km. 12 road from Sungaipenuh to Tapan, 1300 m, 9.XI.1989, leg. BLA, 2 ♀ in MHNG.

Collecting methods: Sifting plant debris in degraded *Lithocarpus-Castanopsis* forest, rotten bamboos and plant debris in secondary forests.

Distribution: Malaysia (Malaya), Indonesia (Sumatra). New record for Sumatra.

Agathidium (s. str.) **montivagum** n. sp.

Figs 16, 29, 30, 43

Length 2,5-2,7 mm (holotype ♂: 2,55 mm). Dorsum reddish-brown, elytra darker or black, venter reddish-brown; antennae unicolor; legs reddish-brown, microsculpture absent, punctured on the whole dorsum; two sizes of punctures on elytra.

Head: Punctures small, superficial, spaced from each other by 0,5-8 times their own diameter. Widest at eyes; antero-lateral margins raised up; a small pit at each side of clypeus; eyes protuberant; clypeal margin moderately excavate; clypeal line absent. 3rd antennal segment 1,9 times as long as the 2nd and longer than 4th+5th. Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Punctures larger than those of head, superficial, spaced from each other by 1-4 times their own diameter. 1,54 times as broad as head, moderately broader than long ($W/L = 1,45$) and moderately convex ($W/H = 1,54$); anterior margin slightly bent; lateral outline with sharp angle (fig. 7). Holotype: length 0,80 mm, width 1,16 mm, height 0,75 mm.

Elytra: Punctures larger and more impressed than those of pronotum, spaced from each other by 0,5-2 times their own diameter, smaller punctures are interposed. Nearly as broad as pronotum, moderately longer than broad ($W/L = 0,9$) and moderately convex ($W/H = 1,57$); lateral outline with very weak humeral angle; sutural striae absent. Holotype: length 1,20 mm, width 1,10 mm, height 0,70 mm.

Metathoracic wings: present. Meso- and metasternum: median carina present, lateral lines incomplete, femoral lines incomplete.

Legs: Male hind femora untoothed (fig. 16). Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.

Male copulatory organ (figs 29-30): Aedeagus slender, with twisted proximal part, lateral margins parallel, subacute apex, bifid ventral piece. Parameres slender and enlarged at apex.

Spermateca (fig. 43): Basal part globose and duct-like, very long and convolute; apical part short and bent.

Discussion: *A. montivagum* n. sp. is very similar to *A. darjeelingense* Ang. & Dmz. (1981: 282, Darjeeling) and *A. siamense* Ang. (1992: 204, Thailand) in antenna colour, presence of metathoracic wings, ratio 3rd/2nd of antennal segments, width ratio pronotum/head and size; its distinctive features are in the male copulatory organ.

Holotype ♂: SUMATRA, Jambi, Mt Kerinci, 1750-1850 m, 11-12-XI.1989, leg. BLA, N. 6914 in MHNG.

Paratypes: together with the holotype, 2 ♂ and 3 ♀ N. 6915-6919 in MHNG, 2 ♂ and 1 ♀ N. 6920-6922 in AC; same locality, 2100 m, 14.XI.1989, 1 ♂ N. 6927 in MHNG; same locality, 1900 m, 13.XI.1989, 2 ♂ and 1 ♀ N. 6923-6925 in MHNG, 1 ♂ N. 6926 in AC.

Collecting methods: Sifting plant debris in *Lithocarpus-Castanopsis* forest.

Distribution: Indonesia (Sumatra).

Agathidium (s. str.) **subobscurum** n. sp.

Figs 17, 31, 32, 44

Length 2,5-2,8 mm (holotype ♂: 2,55 mm). Dorsum uniformly black, venter reddish-brown; antennae testaceous, darker at segments 9-10; legs reddish-brown. Microreticulation absent in the holotype; more or less distinct traces of it in the paratypes; puncturation fine on the whole dorsum.

Head: Punctures small, impressed, spaced from each other by 1-4 times their own diameter. Widest at eyes, eyes protuberant; anterolateral margins distinctly raised up; one small pit at each side of clypeus; clypeus moderately excavate; clypeal line absent. 3rd antennal segment 1,4 times as long as the 2nd and shorter than 4th+5th; Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Microreticulation absent in the holotype, distinct in the specimen from Panti; some traces of microreticulation in the paratypes; punctures larger than those of head, superficial, spaced from each other by 0,5-4 times their own diameter. 1,58 times as broad as head, moderately broader than long ($W/L = 1,37$) and very convex ($W/H = 1,45$); anterior margin slightly bent; lateral outline broadly bent (fig. 8). Holotype: length 0,90 mm, width 1,24 mm, height 0,85 mm.

Elytra: Only traces of microreticulation; punctures as large as those of pronotum, superficial, spaced from each other by 0,5-6 times their own diameter. Slightly narrower than pronotum, as broad as long and moderately convex ($W/H = 1,43$); lateral outline with very weak humeral angle; sutural striae absent. Holotype: length 1,10 mm, width 1,18 mm, height 0,82 mm.

Metathoracic wings present. Meso- and metasternum: median carina present, lateral lines incomplete, femoral lines incomplete.

Legs: Male hind femora untoothed (fig. 17). Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.

Male copulatory organ (figs 31-32): Aedeagus very slender, with spiral-like proximal part, lateral margins sinuate and abruptly convergent towards a rounded apex, ventral piece long and bifid. Parameres slender, gently narrowing towards apex and here enlarged.

Spermateca (fig. 44): Basal part globose and duct-like, long and convolute; apical part short and bent.

Discussion: *A. subobscurum* n. sp. is closely related to *A. hlisnikovskii* Ang. & Dmz. (1984: 31, Malaya) and *A. siamense* Ang. (1992: 204, Thailand), owing to the presence of the lateral lines of mesosternum and the dark colour of the antennal segments 9-10; it differs from *hlisnikovskii* in the ratio 3rd/2nd of antennal segments, the width ratio pronotum/head and the body colour; from *siamense* it differs only in aedeagus characters.

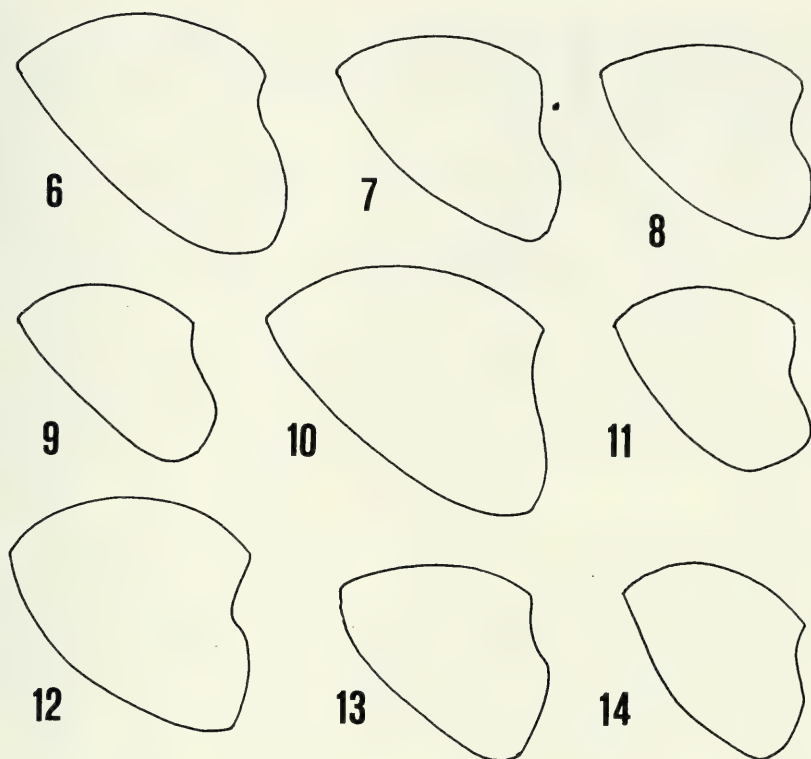
Holotype ♂: SUMATRA, North Sumatra, 7 Km north Brastagi, 1500 m, 2.XII.1989 leg. BLA, N. 6928 in MHNG.

Paratypes: same locality, 3 ♂ N. 6929-6931 in MHNG, 1 ♂ and 1 ♀ N. 6932-6933 in AC.

Further material: SUMATRA, West Sumatra, Panti, 250 m, 19.XI.1989, leg. BLA, 1 ♂ N. 6934 in MHNG.

Collecting methods: Sifting plant debris.

Distribution: Indonesia (Sumatra).



FIGS 6-14

Forms of the lateral outline of pronotum in: 6, *A. luctuosum* n. sp. (broadly bent); 7, *A. montivagum* n. sp. (with sharp angle); 8, *A. subobscurum* n. sp. (broadly bent); 9, *A. agostii* n. sp. (broadly bent); 10, *A. illustre* n. sp. (with sharp angle); 11, *A. indefinitum* n. sp. (broadly bent); 12, *A. aeternum* n. sp. (with sharp angle); 13, *A. amplum* n. sp. (broadly bent); 14, *A. fumosum* n. sp. (broadly bent).

***Agathidium* (s. str.) *agostii* n. sp.**

Figs 9, 18, 33, 34, 35, 45

Length 2,4-2,5 mm (holotype ♂: 2,40 mm). Dorsum uniformly black, venter reddish-brown; antennae darker at club or without darker segments; legs reddish-brown. Microsculpture absent; puncturation distinct on the whole dorsum.

Head: Punctures small, impressed, spaced from each other by 1-6 times their own diameter. Widest at eyes; eyes protuberant; antero-lateral margins raised up; one small pit at each side of clypeus; clypeal margin moderately excavate; clypeal line absent. 3rd antennal segment 1,14 times as long as the 2nd and shorter than 4th+5th; Hamann's organ: gutter with one small vesicle in both 9th and 10th antennal segments.

Pronotum: Punctures nearly twice as large as those of head in diameter, spaced from each other by 1-3 times their own diameter. 1,64 times as broad as head; moderately broader than long ($W/L = 1,37$) and moderately convex ($W/H = 1,5$); anterior margin slightly bent; lateral outline broadly bent (fig. 9). Holotype: length 0,80 mm, width 1,10 mm, height 0,73 mm.

Elytra: Punctures as large as those of pronotum, denser, spaced from each other by 1-2 times their own diameter. As broad as pronotum, as broad as long and moderately convex ($W/H = 1,64$); lateral outline with very weak humeral angle; sutural striae absent. Holotype: length 1,08 mm, width 1,12 mm, height 0,68 mm.

Metathoracic wings present. Meso- and metasternum: median carina present, lateral lines absent, femoral lines incomplete.

Legs: Male hind femora untoothed (fig. 18). Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.

Male copulatory organ (figs 33-35): Aedeagus very slender, with spiral-like proximal part, lateral margins sinuate and abruptly convergent towards a subacute apex, long and bifid ventral piece. Parameres slender, gently narrowing toward apex.

Spermateca (fig. 45): Basal part very particular in shape, long and bent; apical part small and bent.

Discussion: *A. agostii* n. sp. is similar to *A. inelegans* Ang. (in press, Sumatra) in colour of the antennal club, presence of metathoracic wings and absence of lateral lines of mesosternum; it differs from the latter in size and dorsum colour.

Holotype ♀: JAVA, West Java, Cibodas Bot. Garden, near Cipanas, 50 Km East from Bogor, 3-6.XI.1989, leg. BLA, N. 6899 in MHNG.

Paratypes: together with the holotype, 3 ♂ and 5 ♀ N. 6900-6906 in MHNG, 2 ♂ and 2 ♀ N. 6907-6910 in AC.

Collecting methods: Sifting plant debris in *Lithocarpus-Castanopsis* forest.

Distribution: Indonesia (Java).

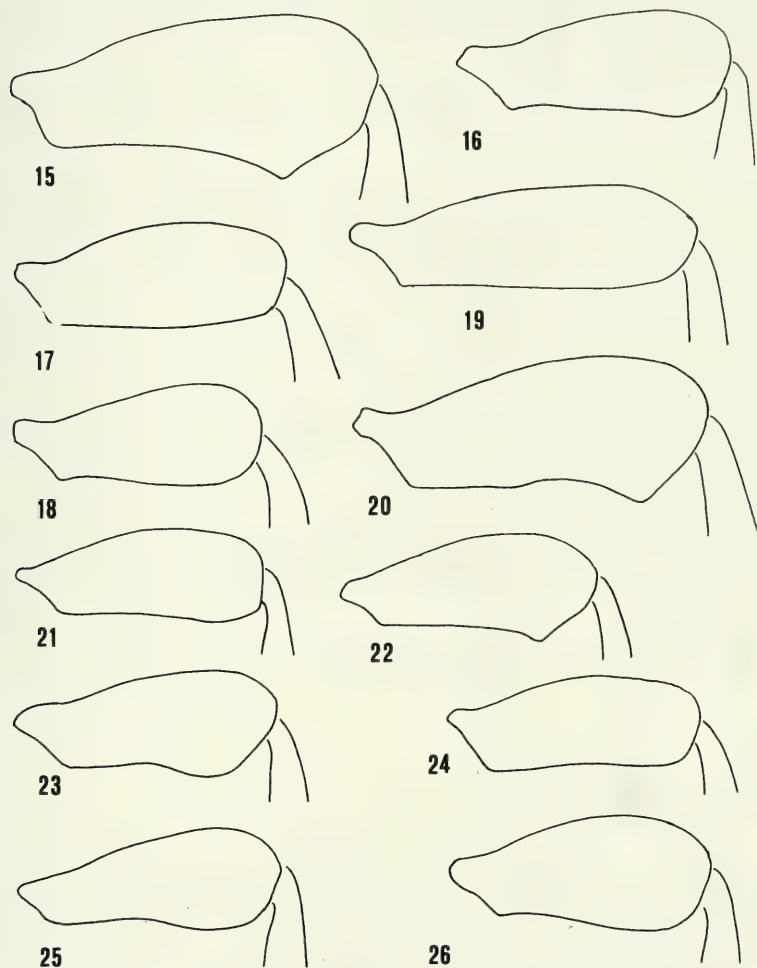
Agathidium (Euryceble) montuosum n. sp.

Figs 19, 36, 37, 38, 46

Length 2,6-2,8 mm (holotype ♂: 2,7 mm). Whole body black or reddish-brown at head and pronotum; venter reddish-brown; antennae uniformly testaceous; legs testaceous. Head sculptured (striolate) only on clypeus; punctures very small on head and pronotum, larger on elytra.

Head: Striolate on clypeus; punctures very small, superficial, spaced from each other by 3-8 times their own diameter. Widest at eyes; eyes protuberant; anterolateral margins raised up; one small pit and one short groove at each side of clypeus. 3rd antennal segment 1,95 times as long as the 2nd and longer than 4th+5th; Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Punctures as large as those of head, spaced from each other by 4-10 times their own diameter. 1,53 times as broad as head, moderately broader than long ($W/L = 1,46$) and very convex ($W/H = 1,36$); anterior margin slightly bent; lateral outline with sharp angle. Holotype: length 0,86 mm, width 1,26 mm, height 0,92 mm.



FIGS 15-26

Male hind femur of: 15, *A. luctuosum* n. sp.; 16, *A. montivagum* n. sp.; 7, *A. subobscurum* n. sp.; 18, *A. agostii* n. sp.; 19, *A. montuosum* n. sp.; 20, *A. illustre* n. sp.; 21, *A. interruptum* n. sp.; 22, *A. arcuatum* Ang. & Coot.; 23, *A. xerampelinum* n. sp.; 24, *A. sabahense* n. sp.; 25, *A. loeblianum* n. sp.; 26, *A. indefinitum* n. sp.

Elytra: Punctures larger than those of head, superficial, spaced from each other by 2-6 times their own diameter. As broad as pronotum, as broad as long and moderately convex ($W/H = 1,51$); lateral outline with very weak humeral angle; sutural striae absent. Holotype: length 1,20 mm, width 1,26 mm, height 0,93 mm.

Metathoracic wings present. Meso- and metasternum: median carina present, lateral lines absent, femoral lines incomplete; a distinct tubercle between the metacoxae.

Legs: Male hind femora simple (fig. 19). Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.

Male copulatory organ (figs 36-38): Aedeagus stout, with proximal part simple, apex deeply bifid, a large median protuberance at apex, ventral piece not bifid. Endophallus sclerotized, permanently protruded. Parameres stout, tapered at half of their own length.

Spermateca (fig. 46): Very small, globose, with an apical protuberance and a tubercle at the duct connection.

Discussion: *A. montuosum* n. sp. differs from the other species of the subg. *Euryceble* owing to the presence of a groove at each side of clypeus, instead of an uninterrupted clypeal crest.

Holotype ♂: SUMATRA, Jambi, Mt Kerinci, 1750-1850 m, 11-12.XI.1989, leg. BLA, in MHNG.

Paratypes: together with the holotype, 1 ♂ and 5 ♀ N. 6940-6945 in MHNG, 2 ♂ and 1 ♀ N. 6940-6945 in AC; same locality, 1900 m, 13.XI.1989, 2 ♂ and 1 ♀ N. 6951-6953 in MHNG, 1 ♂ N. 6954 in AC; same locality, 2100 m, 14.XI.1989, 1 ♂ and 1 ♀ N. 6949, 6950 in MHNG. All leg. BLA.

Collecting methods: Sifting plant debris in *Lithocarpus-Castanopsis* forest.

Distribution: Indonesia (Sumatra).

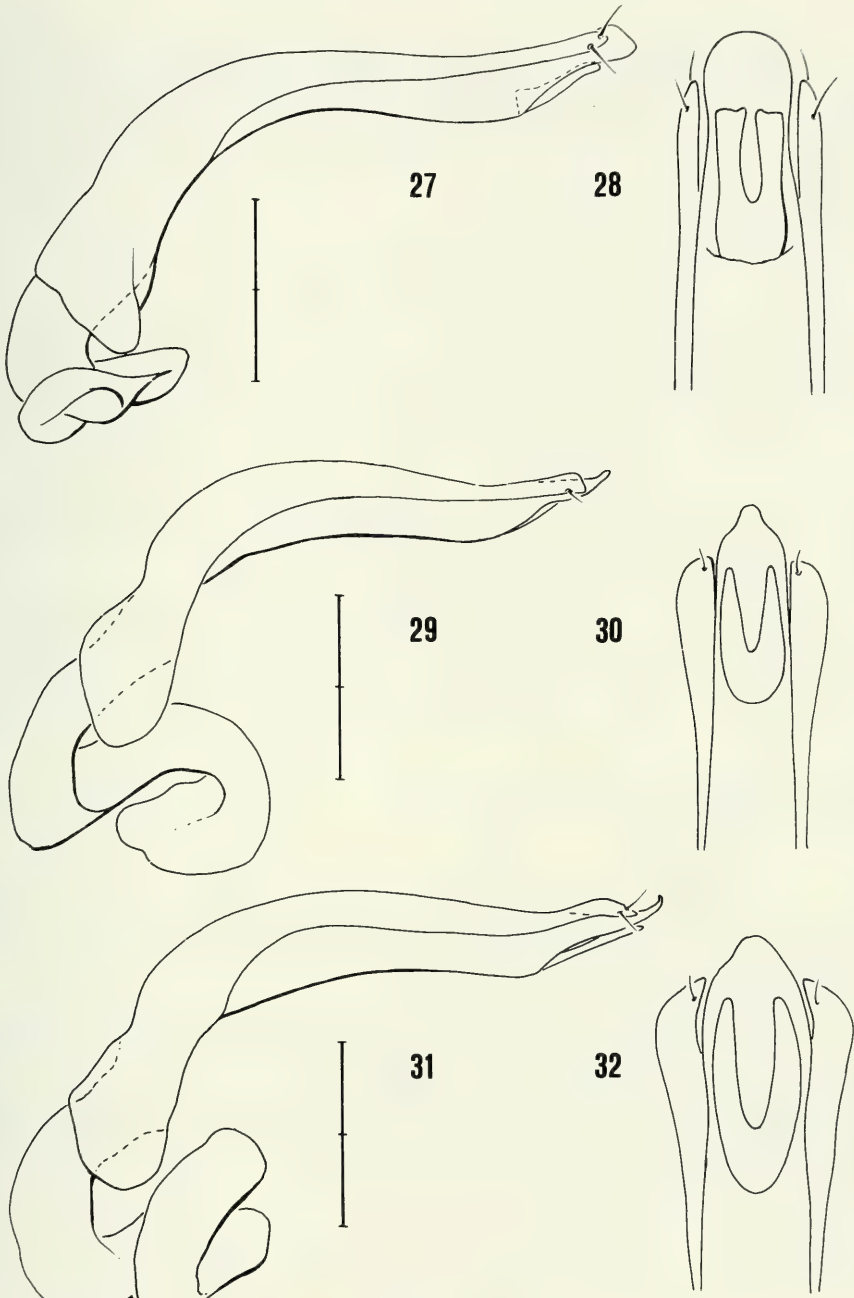
Agathidium (*Euryceble*) *illustre* n. sp.

Figs 10, 20, 39, 40, 41, 47

Length 3,5-3,7 mm (holotype ♂: 3,50 mm). Dorsum reddish-brown at head, black at pronotum and elytra; venter reddish-brown; antennae testaceous, darker at segments 9-10; legs reddish-brown. Whole head dorsally sculptured (striolate); pronotum and elytra with superficial microreticulation; whole dorsum punctured.

Head: Whole dorsum striolate; punctures large and superficial, spaced from each other by 0,5-2 times their own diameter. Widest at eyes; eyes protuberant; anterolateral margins distinctly raised up; clypeus moderately excavate, bordered by an uninterrupted crest. 3rd antennal segment 1,55 times as long as the 2nd and longer than 4th+5th; Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Microreticulation superficial and uniform; punctures larger and more impressed than those of head, spaced from each other by 0,5-2 times their own diameter. 1,47 times as broad as head, moderately broader than long ($W/L = 1,32$) and moderately convex ($W/H = 1,54$); anterior margin distinctly bent; lateral outline with sharp angle (fig. 10). Holotype: length 1,28 mm, width 1,70 mm, height 1,10 mm.



FIGS 27-32

Male copulatory organ (lateral view and ventral view of its apex) of: 27-28, *A. luctuosum* n. sp.; 29-30, *A. montivagum* n. sp.; 31-32, *A. subobscurum* n. sp. Scale: 1 division = 0,1 mm (referred to the lateral view).

Elytra: Microreticulation very superficial in the holotype, more impressed in the paratypes; punctures as large as those of pronotum, sparser, spaced from each other by 2-6 times their own diameter. As broad as pronotum, moderately larger than long ($W/L = 1,13$) and moderately convex ($W/H = 1,5$); lateral outline with weak humeral angle; sutural striae absent. Holotype: length 1,50 mm, width 1,70 mm, height 1,13 mm.

Metathoracic wings present. Meso- and metasternum: median carina absent, lateral lines absent, femoral lines incomplete.

Legs: Male hind femora toothed (fig. 20). Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.

Male copulatory organ (figs 39-41): Aedeagus very slender, with spiral-like proximal part, lateral margins sinuate and convergent towards a rounded apex, ventral piece long and deeply split. Parameres slender, narrowing towards apex.

Spermateca (fig. 47): Basal part pear-shaped, protruding towards the duct; apical part slender.

Discussion: *A. illustre* n. sp. clearly separates from *A. montuosum* n. sp. owing to the presence of the clypeal crest; it differs from *A. capito* Ang. (1991: 173) and *A. antennatum* Hliss. (1964: 124) in the presence of sculpture on the whole head dorsum, the ratio 3rd/2nd in antennal segments and its body size.

Holotype ♂: Sumatra, Aceh, Mt Leuser Natn. Park, Ketambe Res. Stat., 1000 m, 28-29.XI.1989, leg. BLA, N. 6937 in MHNG.

Paratypes: together with the holotype, 1 ♀ N. 6938 in AC.

Collecting methods: Sifting plant debris in *Lithocarpus-Castanopsis* forest.

Distribution: Indonesia (Sumatra).

***Agathidium (Microceble) interruptum* n. sp.**

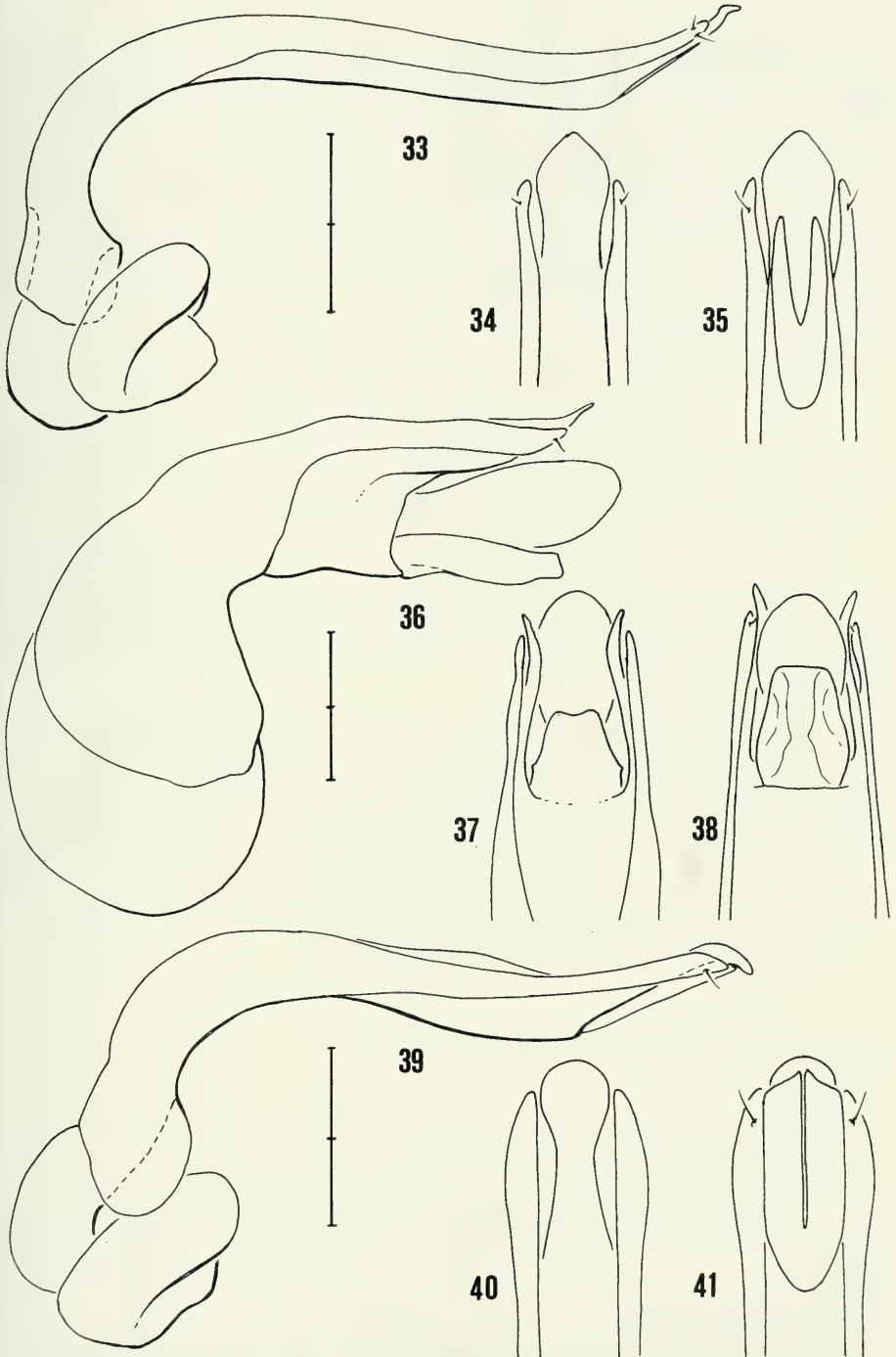
Figs 2, 21, 48, 49, 85

Length 2,2-2,6 mm (holotype ♂: 2,45 mm). Dorsum reddish-brown, rarely with black elytral disc; venter reddish-brown; antennae testaceous, darker at segments 9-10; legs reddish-brown; microreticulation only on head and pronotum; whole dorsum with fine and sparse puncturation.

Head: Microreticulation superficial, uniform, weakly distinct at magnitude 100X; punctures small, superficial, spaced from each other by 0,5-5 times their own diameter. Antero-lateral margins distinctly raised up; a small pit at each side of clypeus; clypeal crest interrupted at middle (fig. 2). 3rd antennal segment as long as the 2nd and shorter than 4th+5th; Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

FIGS 33-41

Male copulatory organ (lateral view, dorsal and/or ventral view of its apex) of: 33-35, *A. agostii* n. sp.; 36-38, *A. montuosum* n. sp.; 39-41, *A. illustre* n. sp. Scale: 1 division = 0,1 mm (lateral view).



Pronotum: Microreticulation as on head; punctures larger and more clearly impressed than those of head, spaced from each other by 1-6 times their own diameter. 1,84 times as broad as head; moderately broader than long ($W/L = 1,33$) and highly convex ($W/H = 1,29$); anterior margin weakly bent; lateral outline with sharp angle. Holotype: length 0,90 mm, width 1,20 mm, height 0,93 mm.

Elytra: Puncture larger than those of pronotum, superficial, spaced from each other by 1-10 times their own diameter. Distinctly broader than pronotum, moderately broader than long ($W/L = 1,14$) and moderately convex ($W/H = 1,68$); lateral outline with weak humeral angle; sutural striae absent. Holotype: length 1,10 mm, width 1,26 mm, height 0,75 mm.

Metathoracic wings present. Meso- and metasternum: median carina present, lateral lines incomplete, femoral lines incomplete.

Legs: Male hind femora simple (fig. 21). Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.

Male copulatory organ (figs 48-49): Aedeagus comparatively stout, with hook-like proximal part, lateral margins sinuate, apex broadly rounded, bifid ventral piece. Parameres slender, gently narrowing towards apex.

Spermatheca (fig. 85): Basal part pear-shaped; apical part short and slender.

Discussion: *A. interruptum* n. sp. is very similar to *A. arcuatum* Ang. & Coot. (1985: 129, Sarawak) and *A. xerampelinum* n. sp. in most characters; it differs from them in the antenna colour, ratio 3rd/2nd of antennal segments and male hind femur shape.

Holotype ♂: BORNEO, Sabah, Kinabalu Park, Poring Hot Springs, Langanan Falls, 900-950 m, 12.V.1987, leg. BL, N. 6464 in MHNG.

Paratypes: together with the holotype, 1 ♂ and 1 ♀ N. 6465-6466 in MHNG, 1 ♂ and 1 ♀ N. 6467-6468 in AC; Mt Kinabalu, Silau-Silau trail, 1550-1650 m, 24.IV.1987, 1 ♂ N. 6469 in MHNG; same locality, Liwagu trail, 1500 m, 21.V.1987, 1 ex. N. 6470 in MHNG, 1 ♀ N. 6471 in AC.

Collecting methods: Sifting decaying wood and dead leaves in a very damp ravine in *Lithocarpus-Castanopsis* forest; sifting plant debris near a stream in forest of Dipterocarpaceae, sifting plant debris in *Lithocarpus-Podocarpus* forest.

Distribution: Malaysia (Borneo: Sabah).

Agathidium (Microceble) arcuatum Ang. & Coot.

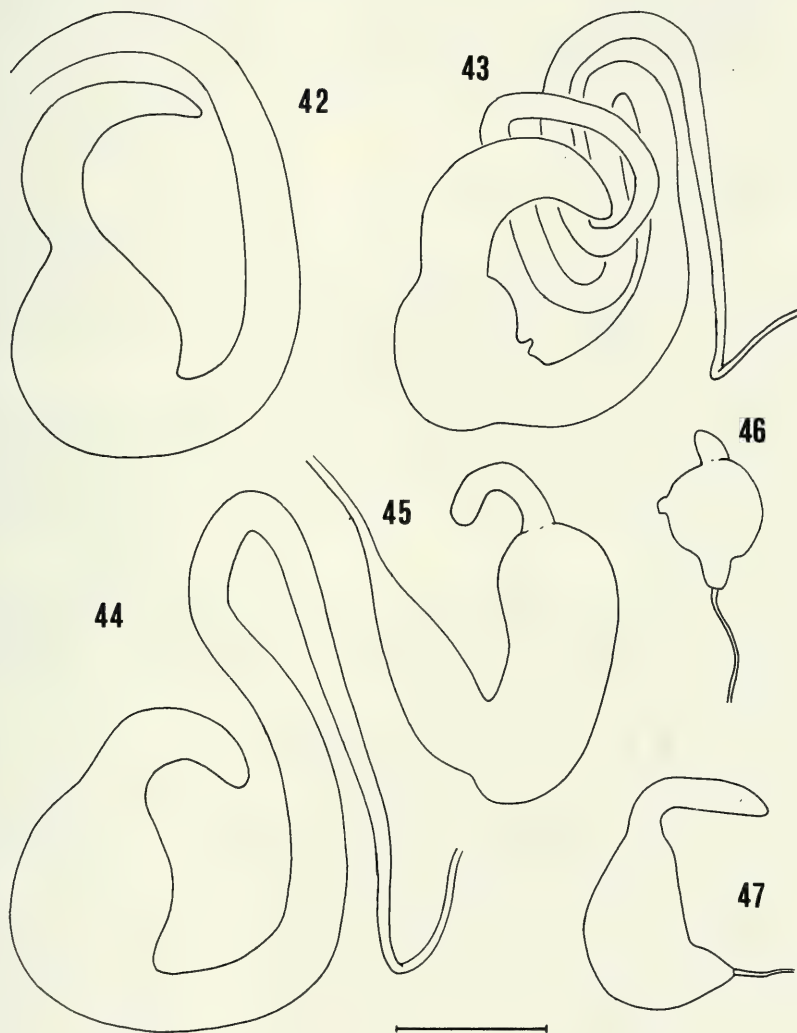
Figs 22, 50, 51

Agathidium (s. str.) *arcuatum* Angelini & Cooter, 1985: 129.

Agathidium (Microceble) arcuatum: ANGELINI & DE MARZO, 1986: 453.

Material: Borneo, Sabah, Kinabalu Park, Poring Hot Springs, 500 m, 6.V.1987, leg. BL, 1 ex. in MHNG, 1 ♂ in AC; same locality but 7.V. 1987, 1 ex. in MHNG; same locality, 550-600 m, 9.V.1987, 1 ex. in MHNG; Crocker Range, east side, 63 Km Kota Kinabalu-Tambunan road, 1200 m, 19.V.1987, leg. BL, 1 ♂ and 1 ♀ in MHNG, 1 ♂ in AC; Mt Kinabalu Natn. Park, Poring Hot Springs, 500 m, 10.V.1987, leg. Smetana, 1 ♂ in MHNG; same locality, 485 m, 21 and 29.VIII. 1989, 1 ♂ in AC and 1 ♀ in MHNG.

Collecting methods: Sifting plant debris near a stream; sifting decaying wood in dry environment in forest of Dipterocarpaceae; sifting plant debris in a damp ravine in *Lithocarpus-Castanopsis* forest.



FIGS 42-47

Spermatheca of: 42, *A. luctuosum* n. sp.; 43, *A. montivagum* n. sp.; 44, *A. subobscurum* n. sp.; 45, *A. agostii* n. sp.; 46, *A. montuosum* n. sp.; 47, *A. illustre* n. sp. Scale: 1 division = 0,1 mm.

Discussion: *A. arcuatum* Ang. & Coot. was described on the basis of a single female specimen. Male tarsal formula: 5-5-4. Male hind femora: fig. 22. Description of the male copulatory organ (figs 50-51): aedeagus very slender, with twisted proximal part, apex truncate, long and bifid ventral piece; parameres slender, gently narrowing towards apex. The new specimens agree with the type in colour, puncturation and microreticulation. Length range: 2,50-3,15 mm.

Distribution: Malaysia (Borneo: Sarawak and Sabah). New record for Sabah.

Agathidium (Microceble) xerampelinum n. sp.

Figs 3, 23, 52, 53, 86

Length 2,1-2,5 mm (holotype ♂: 2,35 mm). Dorsum uniformly reddish-brown, venter reddish-brown, paler at mesosternum; antennae uniformly testaceous; legs testaceous. Microreticulation superficial and uniform on head and pronotum, nearly absent on elytra; puncturation fine and uniform on the whole dorsum.

Head: Microreticulation superficial, uniform and distinct; punctures small, impressed, spaced from each other by 2-6 times their own diameter. Widest at eyes; eyes protuberant; antero-lateral margins raised up; clypeus weakly excavate, bordered by a crest interrupted at middle (fig. 3). 3rd antennal segment 1,3 times as long as the 2nd and longer than 4th+5th; Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Microreticulation as that of head; punctures as those of head, spaced from each other by 2-5 times their own diameter. 1,88 times as broad as head, moderately broader than long ($W/L = 1,36$) and very convex ($W/H = 1,4$); anterior margin slightly bent; lateral outline broadly bent. Holotype: length 0,83 mm, width 1,13 mm, height 0,80 mm.

Elytra: Only traces of microreticulation; punctures larger and more impressed than those of pronotum, spaced from each other by 2-5 times their own diameter. As broad as pronotum, moderately larger than long ($W/L = 1,18$) and very convex ($W/H = 1,37$); lateral outline with very weak humeral angle; sutural striae absent. Holotype: length 0,95 mm, width 1,13 mm, height 0,82 mm.

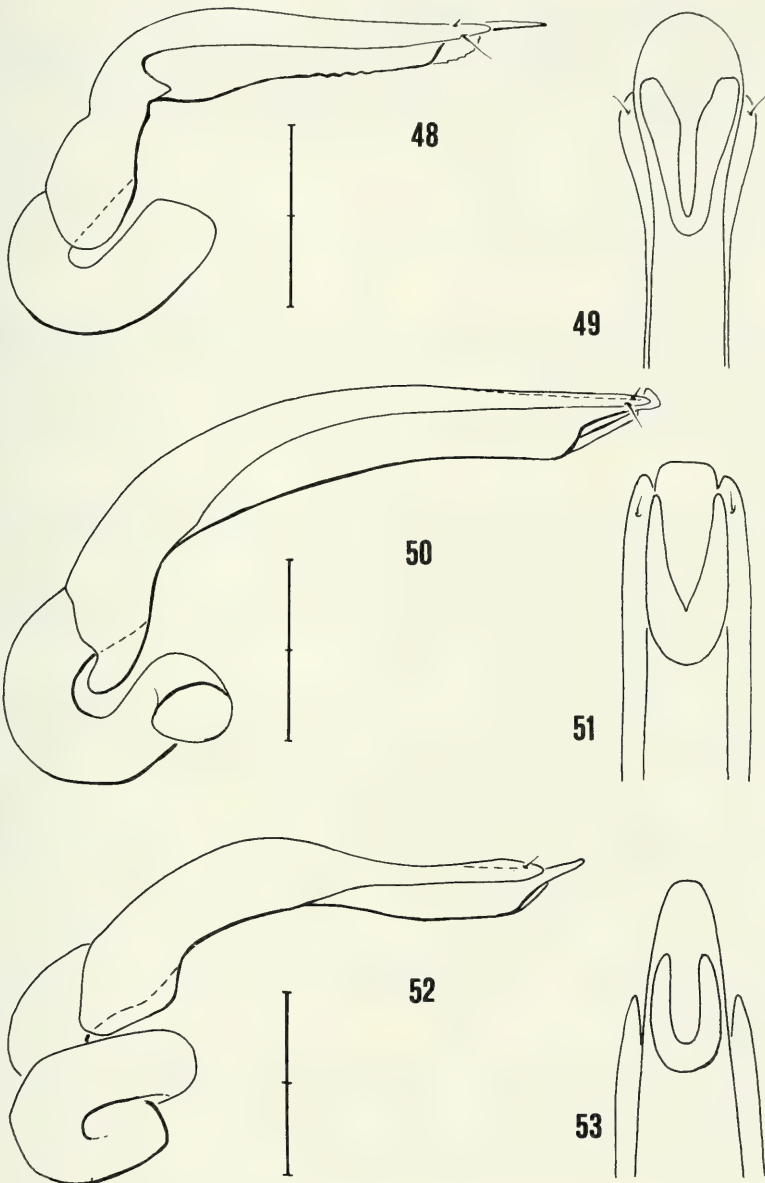
Metathoracic wings present. Meso- and metasternum: median carina weak, lateral lines complete, femoral lines incomplete.

Legs: Male hind femora with a weak tooth (fig. 23). Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.

Male copulatory organ (figs 52-53): Aedeagus slender, with spiral-like proximal part, lateral margins parallel and gently convergent towards a rounded apex, bifid ventral piece. Parameres comparatively stout, enlarged at apex.

Spermatea (fig. 86): Basal part very particular in shape; apical part small and bent.

Discussion: see discussion of *A. interruptum* n. sp.; from *A. arcuatum* Ang. & Coot. (1985: 129, Sarawak), *A. xerampelinum* n. sp. differs in the ratio 3rd/2nd of antennal segments, pronotum microreticulation and size.



FIGS 48-53

Male copulatory organ (lateral view and ventral view of its apex) of: 48-49, *A. interruptum* n. sp.; 50-51, *A. arcuatum* Ang. & Coot.; 52-53, *A. xerampelinum* n. sp. Scale: 1 division = 0,1 mm (referred to the lateral view).

H o l o t y p e ♂: BORNEO, Sabah, Mt Kinabalu Natn. Park, Head Quarter, 1560-1660 m, 24.IV.1987, leg. Smetana, N. 7000 in MHNG.

P a r a t y p e s: together with the holotype, 1 ♂ and 1 ♀ N. 7002-7003 in AC; same locality, Liwagu River, 1500 m, 30.IV.1987, 2 ♂ and 1 ♀ N. 7004, 7005, 7118 in MHNG.

C o l l e c t i n g m e t h o d s: Sifting mouldy debris of an old fallen tree.

D i s t r i b u t i o n: Malaysia (Borneo: Sabah).

Agathidium (Microceble) sabahense n. sp.

Figs 4, 24, 54, 55, 87

Length 2,1-3,5 mm (Holotype ♂: 2,35 mm). Dorsum dark reddish-brown or black, lighter at sides; venter reddish-brown; antennae uniformly testaceous or darker at segments 9-10; legs reddish-brown. Microreticulation superficial on head, absent on pronotum and elytra; punctures impressed on head, very small and sparse on pronotum and elytra.

H e a d: Microreticulation very superficial, uniform, poorly distinct; punctures large, impressed, spaced from each other by 1-4 times their own diameter. Widest at eyes; eyes protuberant; antero-lateral margins raised up; a small pit at each side of clypeus; clypeus bordered by an uninterrupted crest (fig. 4). 3rd antennal segment 0,75 times as long as the 2nd and shorter than 4th+5th; Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

P r o n o t u m: Punctures small, superficial, spaced from each other by 6-20 times their own diameter. 1,87 times as broad as head; moderately broader than long ($W/L = 1,41$) and very convex ($W/H = 1,46$); anterior margin slightly bent; lateral outline with sharp angle. Holotype: length 0,85 mm, width 1,20 mm, height 0,82 mm.

E l y t r a: Punctures smaller than those of head, superficial, spaced from each other by 3-8 times their own diameter. Weakly broader than pronotum, moderately broader than long ($W/L = 1,12$) and moderately convex ($W/H = 1,61$); lateral outline with weak humeral angle; sutural striae absent. Holotype: length 1,03 mm, width 1,16 mm, height 0,72 mm.

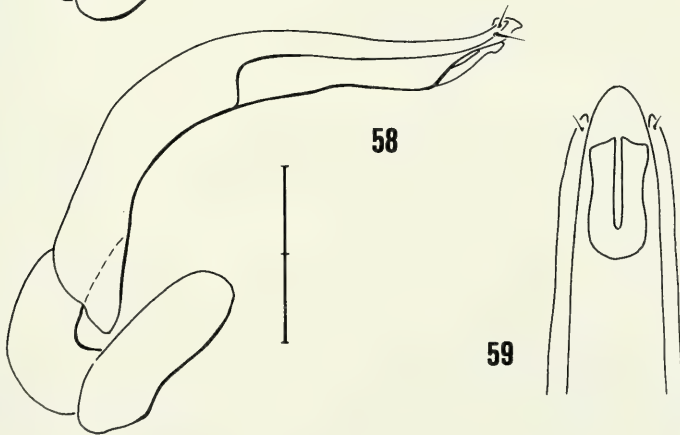
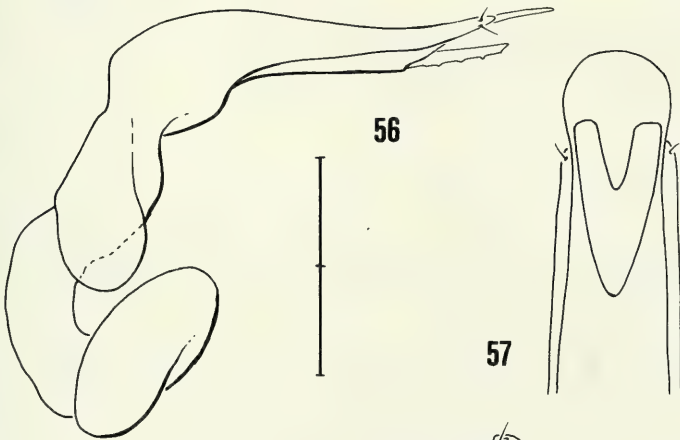
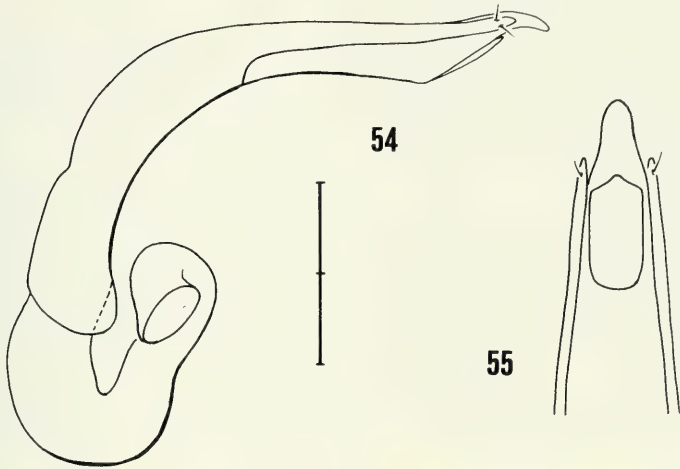
M e t a t h o r a c i c w i n g s p r e s e n t. Meso- and metasternum: median carina present, lateral lines complete, femoral lines incomplete; a small tubercle between the metacoxae.

L e g s: Male hind femora untoothed (fig. 24). Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.

M a l e c o p u l a t o r y o r g a n (figs 54-55): Aedeagus slender, with twisted proximal part, lateral margins sinuate, rounded apex, ventral piece not bifid. Parameres slender, tapered at half of their own length.

FIGS 54-59

Male copulatory organ (lateral view and ventral view of its apex) of 54-55, *A. sabahense* n. sp.; 56-57, *A. loeblianum* n. sp.; 58-59, *A. indefinitum* n. sp. Scale: 1 division = 0,1 mm (referred to the lateral view).



Spermateca (fig. 87). Basal part pear-shaped; apical part slender and bent.

Discussion: *A. sabahense* n. sp. is closely related to *A. loeblianum* n. sp. owing to the presence of the clypeal uninterrupted crest, dorsum partially microreticulate and ratio 3rd/2nd of antennal segments; it differs from the latter in the head microreticulation and antenna colour.

Holotype ♂: Borneo, Sabah, Kinabalu Park, Poring Hot Springs, 500 m, 11.V.1987, leg. BL, N. 6472 in MHNG.

Paratypes: together with the holotype, 3 ♂ and 1 ♀ N. 6473-6476 in MHNG, 1 ♂ and 1 ♀ N. 6477-6478 in AC; same locality, 6.V.1987, 3 ♂ and 1 ♀ N. 6479-6482 in MHNG, 1 ♀ N. 6483 in AC; same locality, 7.V. 1987, 4 ♂ and 4 ♀ N. 6484-6491 in MHNG, 2 ♂ and 1 ♀ N. 6492-6494 in AC; same locality, 550-560 m, 9-V-1987, 3 exx. N. 6495-6497 in MHNG, 1 ♂ N. 6498 in AC; same locality, 500 m, 1 ♂ and 1 ♀ N. 6499-6500 in MHNG, 1 ♀ N. 6501 in AC; same locality, 520 m, 15.VIII.1988, leg. Smetana, 1 ♂ and 1 ♀ N. 6958-6959 in MHNG, 1 ♂ N. 6960 in AC; same locality, 485 m, 25.VIII.1988, 1 ♂ N. 6961 in MHNG; same locality, Langanan Falls, 900-950 m, 12.V.1987, leg. BL, 2 exx. N. 6502-6503 in MHNG, 1 ♂ N. 6504 in AC; same locality, 500 m, 13.V.1987, 2 ♂ and 1 ♀ N. 6505-6507 in MHNG, 1 ♀ N. 6508 in AC.

Collecting methods: Sifting decaying wood, fungi and rotten leaves in forest of Dipterocarpaceae; sifting plant debris along a stream.

Distribution: Malaysia (Borneo: Sabah).

Agathidium (Microceble) loeblianum s. sp.

Figs 25, 56, 57, 88

Length 2,3-2,6 mm (holotype ♂: 2,50 mm). Dorsum dark reddish-brown; venter paler; antennae and legs testaceous; microreticulation nearly absent on the whole dorsum; puncturation fine and sparse.

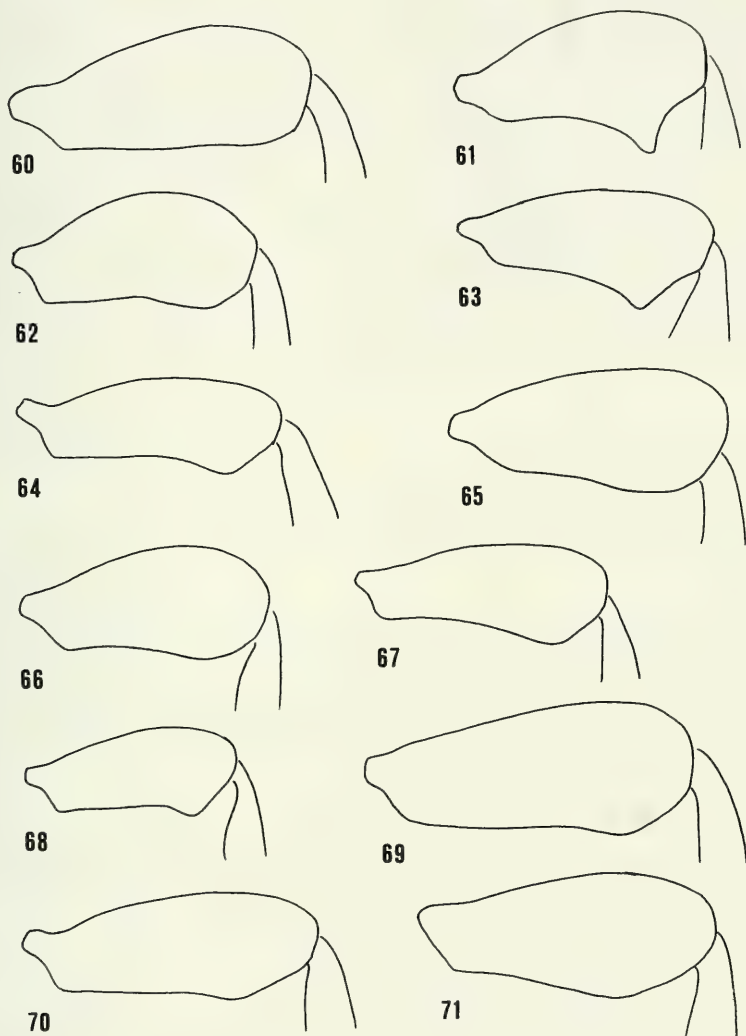
Head: Only traces of microreticulation; punctures very small, superficial, spaced from each other by 1-10 times their own diameter. Widest at eyes; eyes protuberant; antero-lateral margins raised up; a pit at each side of clypeus; clypeus bordered by an uninterrupted crest. 3rd antennal segment 0,78 times as long as the 2nd and shorter than 4th+5th; Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Only traces of microreticulation; punctures more than twice as large as those of head, impressed, spaced from each other by 1-8 times their own diameter. 1,9 times as broad as head; moderately broader than long ($W/L = 1,39$) and very convex ($W/H = 1,2$); anterior margin weakly bent; lateral outline with sharp angle. Holotype: length 0,86 mm, width 1,20 mm, height 1,00 mm.

Elytra: Only traces of microreticulation; puncturation as that of head. Slightly narrower than pronotum, as broad as long and moderately convex ($W/H = 1,57$); lateral outline with weak humeral angle; sutural striae absent. Holotype: length 1,15 mm, width 1,18 mm, height 0,75 mm.

Metathoracic wings present. Meso- and metasternum: median carina present, lateral lines absent, femoral lines incomplete.

Legs: Male hind femora simple (fig. 25). Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.



FIGS 60-71

Male hind femur of: 60, *A. aeternum* n. sp.; 61, *A. aequalis* n. sp.; 62, *A. optatum* n. sp.; 63, *A. malignum* n. sp.; 64, *A. crockerense* n. sp.; 65, *A. quadrimaculatum* n. sp.; 66, *A. nebulosum* n. sp.; 67, *A. abiectum* n. sp.; 68, *A. abruptum* n. sp.; 69, *A. darbyi* Ang. & Coot.; 70, *A. argutum* n. sp.; 71, *A. kinabaluense* n. sp.

Male copulatory organ (figs 56-57). Aedeagus slender, with twisted proximal part, lateral margins sinuate, apex broadly rounded, bifid ventral piece. Parameres slender, gently narrowing towards apex.

Spermatheca (fig. 88): Basal part globose; apical part small and slender.

Discussion: see discussion of *A. sabahense* n. sp.

Holotype ♂: BORNEO, Sabah, Kinabalu Park, Poring Hot Springs, 500 m, 6.V.1987, leg. BL, N. 6509 in MHNG.

Paratypes: BORNEO, Sabah, together with the holotype, 3 and 1 ♀ N. 6510-6513 in MHNG, 1 ♂ and 1 ♀ N. 6514-6515 in AC; same locality, 11.V.1987, 2 exx. N. 6516-6517 in MHNG; same locality, 13.V.1987, 1 ex. N. 6518 in MHNG; same locality, 500 m, 10.V.1987, leg. Smetana, 1 ♂ N. 6955 in MHNG; same locality, 520 m, 15.VIII.1988, 2 ♂ N. 6956, 7120 in MHNG; same locality, 485 m, 25.VIII.1988, 1 ♂ N. 6957 in AC; Kibongol Valley, 7 Km nord Tambunan, 700 m, 20.V.1987, leg. BL, 3 exx. N. 6519-6521 in MHNG, 2 ♂ N. 6525-6526 in AC; Crocker ridge, Hwy Natn. Park, 1000 m, 5.IX.1988, leg. Smetana, 1 ♀ N. 7121 in AC; Sarawak, Bako Nat. Park, near Kuching, leg. Franz, 1 ♀ in Franz's collection, 1 ♂ in AC.

Further material: BORNEO, Sarawak, Damsi beach, near Kuching, leg. Franz, 1 ♂ in AC.

Collecting methods: Sifting rotten wood, fungi and dead leaves in forest of Dipterocarpaceae and near a stream.

Distribution: Malaysia (Borneo: Sabah and Sarawak).

Agathidium (Microceble) indefinitum n. sp.

Figs 26, 58, 59

Length 2,40-2,45 mm (holotype ♂: 2,45 mm). Dorsum uniformly black; mesosternum reddish-brown, metasternum darker; antennae testaceous, darker at segments 7-11; legs reddish-brown. Microreticulation superficial on head, nearly absent or absent at all on pronotum and elytra; puncturation fine and sparse on head and pronotum, clearly more impressed on elytra.

Head: Microreticulation superficial, uniform, poorly distinct; punctures small, well impressed, spaced from each other by 2-10 times their own diameter. Widest at eyes; eyes protuberant; antero-lateral margins distinctly raised up; a pit at each side of clypeus; clypeal border raised up. 3rd antennal segment 1,2 times as long as the 2nd and shorter than 4th+5th; Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Only traces of microreticulation; punctures as those of head, spaced from each other by 5-10 times their own diameter. 1,85 times as broad as head; moderately broader than long ($W/L = 1,58$) and moderately convex ($W/H = 1,73$); anterior margin weakly bent; lateral outline broadly bent. Holotype: length 0,86 mm, width 1,30 mm, height 0,75 mm.

Elytra: Microreticulation absent; punctures more than twice as large as those on head, clearly impressed, spaced from each other by 1-5 times their own diameter. Weakly broader than pronotum, moderately broader than long ($W/L = 1,17$) and very convex ($W/H = 1,46$); lateral outline with weak humeral angle; sutural striae absent. Holotype: length 1,12 mm, width 1,32 mm, height 0,90 mm.

Metathoracic wings present. Meso- and metasternum: median carina present; lateral lines absent; femoral lines incomplete.

Legs: Male hind femora untoothed (fig. 26). Tarsal formula: ♂ 5-5-4, ♀ not known.

Male copulatory organ (figs 58-59): Aedeagus slender, with twisted proximal part, lateral margins parallel and gently convergent towards a rounded apex, bifid ventral piece. Parameres slender, abruptly narrowed at half of their length.

Discussion: *A. indefinitum* n. sp. is very similar to *A. magnificum* Ang. (1991: 176, Sarawak) in most characters; it differs from the latter in the ratio 3rd/2nd of antennal segments, width ratio pronotum/head and body size.

Holotype ♂: BORNEO, Sabah, Kinabalu Park, Mt Kinabalu, 1800 m, 26.IV.1987, leg. BL, N. 6529 in MHNG.

Paratype: same locality, Liwagu trail, 1580 m, 27.IV.1987, 1 ♂ N. 6530 in AC.

Collecting methods: Sifting fungi and rotten leaves in a ravine and near a stream.

Distribution: Malaysia (Borneo: Sabah).

Agathidium (Microceble) aeternum n. sp.

Figs 60, 72, 73, 74

Length 3,0 mm (holotype ♂). Dorsum uniformly reddish-brown; venter and legs lighter reddish-brown; antennae testaceous, darker at segments 8-10. Microreticulation superficial on head and pronotum, nearly absent on elytra; whole dorsum with fine and sparse puncturation.

Head: Microreticulation superficial and uniform; punctures small, superficial, spaced from each other by 1-8 times their own diameter. Widest at eyes; eyes protuberant; antero-lateral margins distinctly raised up; a pit at each side of clypeus; clypeus bordered by an uninterrupted crest. 3rd antennal segment 1,45 times as long as the 2nd and as long as 4th+5th; Hamann's organ: gutter with one vesicle in both 9th and 10th antennal segments.

Pronotum: Microreticulation superficial as on head; punctures smaller and more superficial than those of head, spaced from each other by 2-10 times their own diameter. 1,94 times as broad as head; moderately broader than long (W/L = 1,36) and very convex (W/H = 1,36); anterior margin weakly bent; lateral outline with sharp angle. Holotype: length 1,07 mm, width 1,46 mm, height 1,07 mm.

Elytra: Only traces of microreticulation; punctures larger and more impressed than those on head, spaced from each other by 2-10 times their own diameter. A little narrower than pronotum, as broad as long and moderately convex (W/H = 1,76); lateral outline with weak humeral angle; sutural striae absent. Holotype: length 1,35 mm, width 1,41 mm, height 0,80 mm.

Metathoracic wings present. Meso- and metasternum: median carina present, lateral lines incomplete, femoral lines incomplete.

Legs: Male hind femora untoothed (fig. 60). Tarsal formula: ♂ 5-5-4, ♀ not known.

Male copulatory organ (figs 72-74): Aedeagus comparatively stout, with ring-like proximal part, lateral margins sinuate, apex abruptly narrowed, slender and bifid ventral piece. Parameres enlarged and bent at apex.

Discussion: *A. aeternum* n. sp. shares with *A. aequalis* n. sp. the presence of an uninterrupted clypeal crest; it differs from the latter in the ratio 3rd/2nd of antennal segments and size.

Holotype ♂: BORNEO, Sabah, Kinabalu Park, Poring Hot Springs, Langanan river, 850 m, 14.V.1987, leg. BL, in MHNG.

Paratype: Same locality, 500 m, 10.V.1987, leg. Smetana, 1 ♂ N. 6965 in AC.

Collecting methods: Sifting decaying wood, dead leaves and mosses in *Lithocarpus-Castanopsis* forest.

Distribution: Malaysia (Borneo: Sabah).

Agathidium (Microceble) aequalis n. sp.

Figs 61, 75, 76

Length 2,4-2,67 mm (holotype ♂: 2,45 mm). Dorsum uniformly black or dark reddish-brown; mesosternum dark reddish-brown, metasternum paler; antennae uniformly testaceous or darker at segments 9-10; legs reddish-brown. Microreticulation superficial on head, nearly absent on pronotum and elytra; whole dorsum with fine and sparse puncturation.

Head: Microreticulation superficial and uniform; punctures very small, superficial, spaced from each other by 1-10 times their own diameter. Antero-lateral margins raised up; a pit at each side of clypeus; clypeus bordered by an uninterrupted crest. 3rd antennal segment as long as the 2nd and shorter than 4th+5th; Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Only traces of microreticulation; punctures smaller and more superficial than those on head, spaced from each other by 3-8 times their own diameter. Twice as broad as head, moderately broader than long ($W/L = 1,41$) and very convex ($W/H = 1,41$). Anterior margin weakly bent; lateral outline with sharp angle. Holotype: length 0,90 mm, width 1,27 mm, height 0,90 mm.

Elytra: Only traces of microreticulation; punctures larger than those on head, more superficial, spaced from each other by 2-10 times their own diameter. Slightly narrower than pronotum, moderately broader than long ($W/L = 1,21$) and moderately convex ($W/H = 1,61$); lateral outline with weak humeral angle; sutural striae absent. Holotype: length 1,02 mm, width 1,14 mm, height 0,77 mm.

Metathoracic wings present. Meso- and metasternum: median carina present, lateral lines incomplete, femoral lines incomplete.

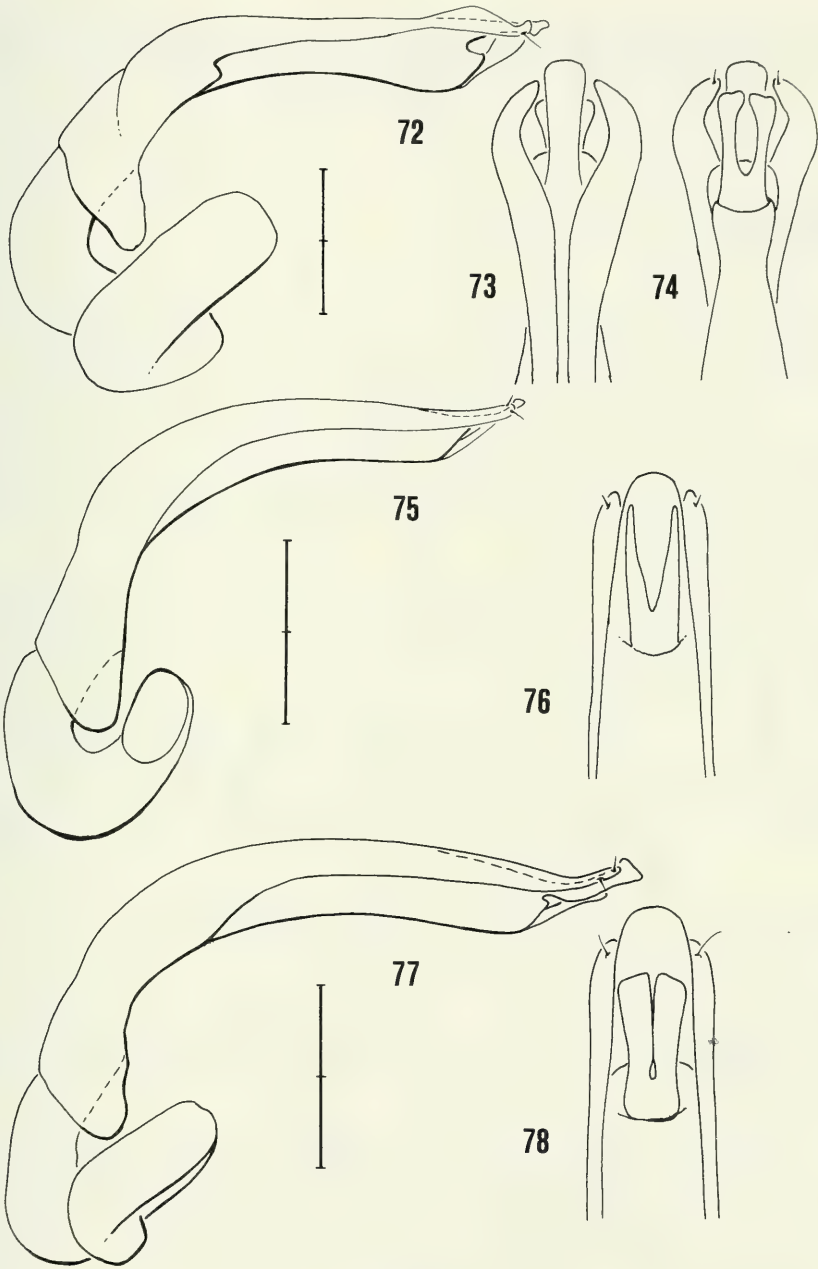
Legs: Male hind femora toothed (fig. 61). Tarsal formula: ♂ 5-5-4, ♀ not known.

Male copulatory organ (figs 75-76). Aedeagus slender, with twisted proximal part, lateral margins gently convergent, apex broadly rounded, slender and bifid ventral piece. Parameres slender, gently narrowing towards apex.

Discussion: see discussion of *A. aeternum* n. sp.

Holotype ♂: BORNEO, Sabah, Kinabalu Park, Poring Hot Springs, 550-600 m, 9.V.1987, leg. BL, N. 6531 in MHNG.

Paratype: same locality, 500 m, 11.V.1987, 1 ♂ N. 6532 in AC.



FIGS 72-78

Male copulatory organ (lateral view, dorsal and/or ventral view of its apex) of: 72-74, *A. aeternum* n. sp.; 75-76, *A. aequalis* n. sp.; 77-78, *A. optatum* n. sp. Scale: 1 division = 0,1 mm (referred to the lateral view).

Collecting methods: Sifting decaying wood and dead leaves of bamboos; sifting plant debris and fungi at the foot of old trees near a stream in forest of Dipterocarpaceae.

Distribution: Malaysia (Borneo: Sabah).

Agathidium (Microceble) optatum n. sp.

Figs 62, 77, 78, 89

Length 2,6-2,7 mm (holotype ♂: 2,70 mm). Dorsum uniformly black, venter reddish-brown, mesosternum paler; antennae testaceous, black at segments 7-11; legs reddish-brown. Microsculpture absent, puncturation fine on the whole dorsum.

Head: Punctures small and superficial, spaced from each other by 1-4 times their own diameter. Widest at eyes; eyes protuberant; antero-lateral margins raised up; a small pit at each side of clypeus; clypeal margin weakly excavate; clypeus bordered by an uninterrupted crest. 3rd antennal segment 1,45 times as long as the 2nd and as long as 4th+5th; Hamann's organ: gutter with one vesicle in both 9th and 10th antennal segments.

Pronotum: Punctures large as those of head, less spaced. 1,80 times as broad as head, moderately broader than long ($W/L = 1,41$) and very convex ($W/H = 1,44$); anterior margin slightly bent; lateral outline broadly bent. Holotype: length 0,90 mm, width 1,27 mm, height 0,88 mm.

Elytra: Punctures larger and more impressed than those of head, spaced from each other by 2-5 times their own diameter. As broad as pronotum, as broad as long and moderately convex ($W/H = 1,54$); lateral outline with very weak humeral angle; sutural striae absent. Holotype: length 1,17 mm, width 1,27 mm, height 0,82 mm.

Metathoracic wings present. Meso- and metasternum: median carina present, lateral lines incomplete, femoral lines incomplete.

Legs: Male hind femora distally enlarged (fig. 62). Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.

Male copulatory organ (figs 77-78). Aedeagus slender, with twisted proximal part, lateral margins parallel and gently convergent towards a rounded apex, deeply split ventral piece. Parameres slender, abruptly narrowed at half of their length.

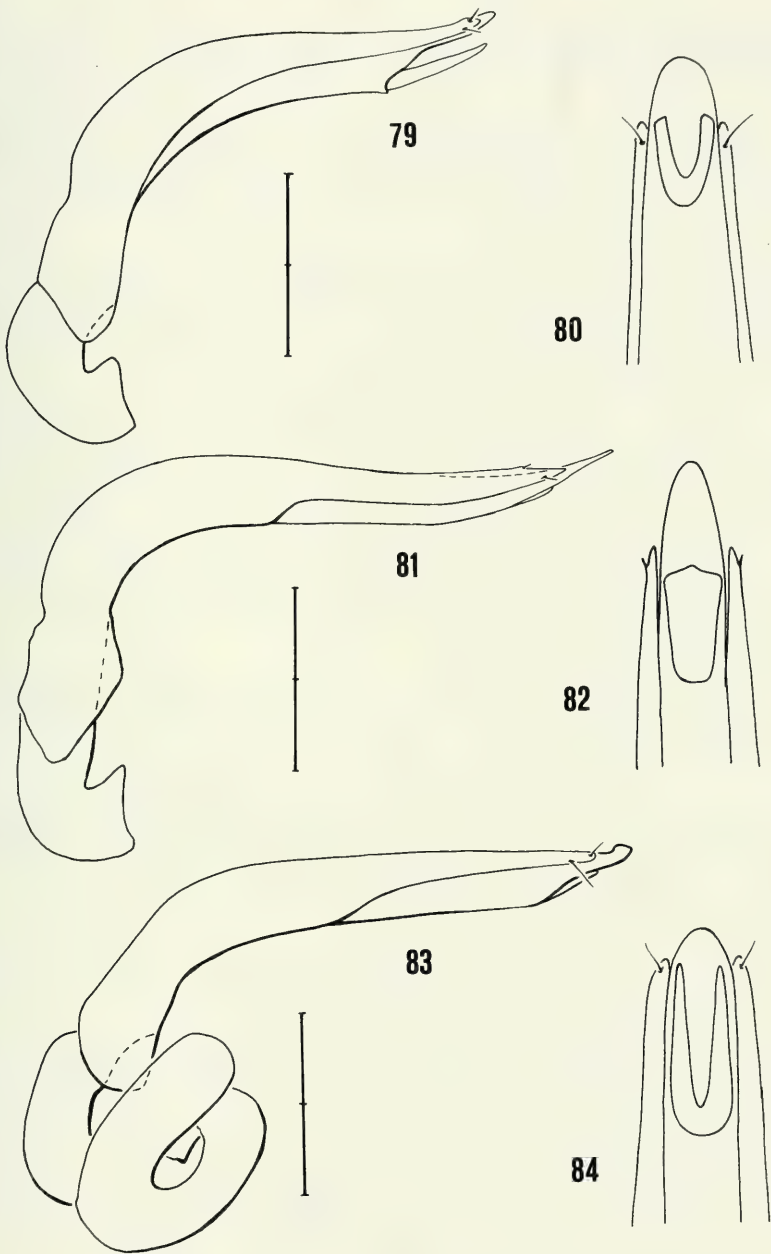
Spermatheca (fig. 89): Basal part subglobose; apical part slender.

Discussion: Within the species that exhibit uninterrupted clypeal crest and dorsum without microreticulation, *A. optatum* n. sp. separates in antenna colour and ratio 3rd/2nd of antennal segments.

Holotype ♂: BORNEO, Sabah, Mt Kinabalu, Kinabalu Park H.Q., 1560-1660 m, 24.IV.1987, leg. Smetana, N. 7026 in MHNG.

Paratypes: same locality, Liwagu River, 1500 m, 30.IV and 16.V.1987, leg. Smetana, 1 ♂ and 1 ♀ N. 7027, 7119 in AC, 1 ♀ N. 7028 in MHNG.

Distribution: Malaysia (Borneo: Sabah).



FIGS 79-84

Male copulatory organ (lateral view and ventral view of its apex) of: 79-80, *A. malignum* n. sp.; 81-82, *A. crockerense* n. sp.; 83-84, *A. quadrimaculatum* n. sp. Scale: 1 division = 0,1 mm (referred to the lateral view).

Agathidium (Microceble) malignum n. sp.

Figs 63, 79, 80, 90

Length 2,3-2,5 mm (holotype ♂: 2,50 mm). Dorsum uniformly reddish-brown; venter and legs paler; antennae testaceous, darker at segments 9-10 and at the apical half of segments 7-8. Microsculpture absent; puncturation very fine on head, very superficial on pronotum and elytra.

Head: Punctures very small, spaced from each other by 5-10 times their own diameter. Widest at eyes; eyes protuberant; antero-lateral margins distinctly raised up; a pit at each side of clypeus; clypeus bordered by an uninterrupted crest. 3rd antennal segment 0,75 times as long as the 2nd and shorter than 4th+5th; Hamann's organ: gutter with one vesicle in both 9th and 10th antennal segments.

Pronotum: Punctures small, superficial, very sparse. 1,73 times as broad as head, moderately broader than long ($W/L = 1,28$) and very convex ($W/H = 1,16$); anterior margin weakly bent; lateral outline with sharp angle. Holotype: length 0,90 mm, width 1,16 mm, height 1,00 mm.

Elytra: Punctures very superficial and sparse, poorly distinct. Slightly narrower than pronotum, as broad as long and moderately convex ($W/H = 1,49$); lateral outline with weak humeral angle; sutural striae absent. Holotype: length 1,06 mm, width 1,12 mm, height 0,75 mm.

Metathoracic wings absent. Meso- and metasternum: median carina present, lateral lines complete, femoral lines incomplete; a small tubercle between the metacoxae.

Legs: Male hind femora toothed (fig. 63). Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.

Male copulatory organ (figs 79-80): Aedeagus comparatively stout, with hook-like proximal part, lateral margins convergent towards a rounded apex, slender and bifid ventral piece. Parameres gently narrowing towards apex.

Spermatheca (fig. 90): Basal part subglobose, protruding towards the duct connection; apical part large, tapering and bent.

Discussion: *A. malignum* n. sp. is very similar to *A. crockerense* n. sp. in most characters; it differs from the latter in the ratio 3rd/2nd of antennal segments, width ratio pronotum/head and absence of the metathoracic wings.

Holotype ♂: BORNEO, Sabah, Kinabalu Park, Mt Kinabalu, Silau-Silau trail, 1550-1650 m, 24.IV.1987, leg. BL, N. 6541 in MHNG.

Paratypes: together with the holotype, 1 ♂ and 2 ♀ N. 6542-6544 in MHNG, 1 ♂ and 1 ♀ N. 6545-6546 in AC.

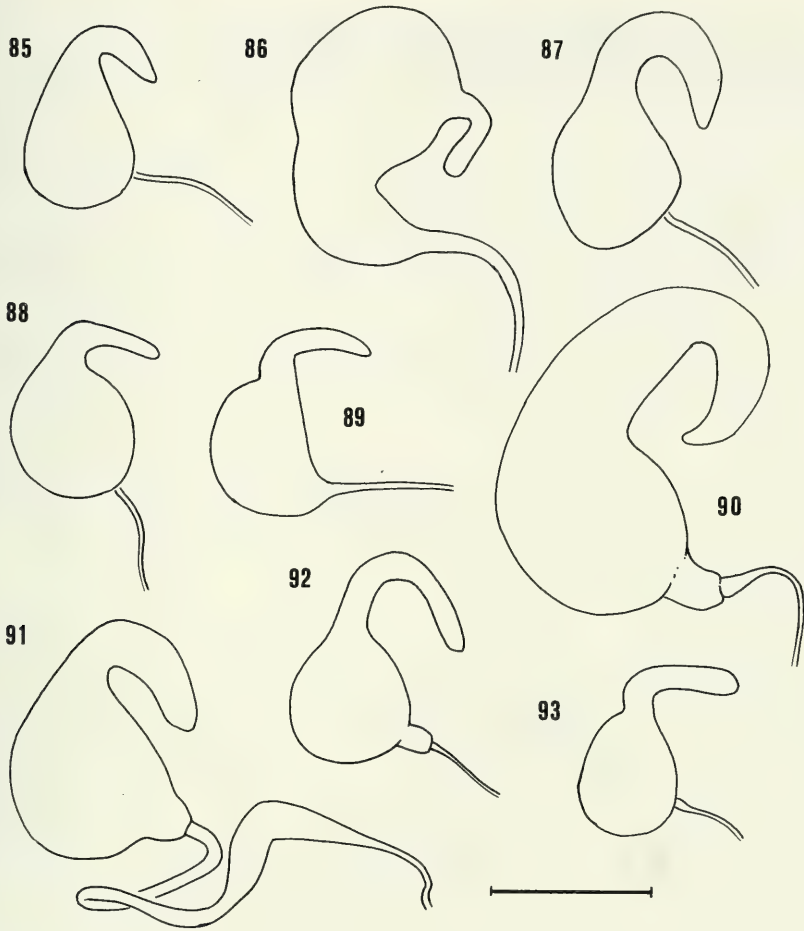
Collecting methods: Sifting decaying wood and dead leaves in a ravine in *Lithocarpus-Castanopsis* forest.

Distribution: Malaysia (Borneo: Sabah).

Agathidium (Microceble) crockerense n. sp.

Figs 64, 81, 82, 91

Length 2,1-2,5 mm (holotype ♂: 2,50 mm). Dorsum of head reddish-brown, pronotum and elytra black; mesosternum testaceous, metasternum reddish-brown;



FIGS 85-93

Spermatheca of: 85, *A. interruptum* n. sp.; 86, *A. xerampelinum* n. sp.; 87, *A. sabahense* n. sp.; 88, *A. loeblianum* n. sp.; 89, *A. optatum* n. sp.; 90, *A. malignum* n. sp.; 91, *A. crockerense* n. sp.; 92, *A. quadrimaculatum* n. sp.; 93, *A. nebulosum* n. sp. Scale: 1 division = 0,1 mm.

antennae testaceous, darker at segments 9-10; legs reddish-brown Microsculpture nearly absent, whole dorsum with fine and sparse puncturation.

H e a d : Punctures very small, superficial, variable in diameter, spaced from each other by 1-10 times their own diameter. Widest at eyes; eyes protuberant; antero-lateral margins distinctly raised up; a small pit at each side of clypeus; clypeus bordered by an uninterrupted crest. 3rd antennal segment 0,6 times as long as the 2nd and shorter than 4th+5th; Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Punctures very small, superficial, poorly distinct, spaced from each other by 2-6 times their own diameter. 1,9 times as broad as head; moderately broader than long ($W/L = 1,33$) and very convex ($W/H = 1,36$). Anterior margin weakly bent; lateral outline with sharp angle. Holotype: length 0,90 mm, width 1,20 mm, height 0,88 mm.

Elytra: Only traces of microreticulation; punctures larger and more impressed than those of pronotum, spaced from each other by 3-10 times their own diameter. Slightly broader than pronotum, moderately broader than long ($W/L = 1,1$) and moderately convex ($W/H = 1,67$), lateral outline with weak humeral angle; sutural striae absent. Holotype: length 1,10 mm, width 1,22 mm, height 0,73 mm.

Metathoracic wings present. Meso- and metasternum: median carina present, lateral lines complete, femoral lines incomplete.

Legs: Male hind femora with weak tooth (fig. 64). Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.

Male copulatory organ (figs 81-82): Aedeagus very slender, with hook-like basal part, lateral margins gently convergent towards a rounded apex, ventral piece not bifid. Parameres slender, tapered at half of their length.

Spermateca (fig. 91): Basal part pear-shaped; apical part slender; distal part of the duct enlarged and sclerotized.

Discussion: see discussion of *A. malignum* n. sp.

Holotype ♂: BORNEO, Sabah, Crocker Range, east side, 63 Km Kota Kinabalu-Tambunan road, 1200 m, 19.V.1987, leg. BL, N. 6551 in MHNG.

Paratypes: BORNEO, together with the holotype, 1 ♂ and 1 ♀ N. 6552-6553 in AC; same locality, 60 Km Kota, Kinabalu-Tambunan Road, 1270 m, 17.V.1987, 1 ♀ N. 6554 in MHNG; Kinabalu Park, M. Kinabalu, Liwagu trail, 1540 m, 29.IV.1987, leg. BL, 1 ♀ N. 6555 in MHNG; same locality, 1500 m, 21.V.1987, 1 ♂ N. 6557 in MHNG, 1 ♂ N. 6558 in AC; Poring Hot Springs, 500 m, 11.V.1987, leg. BL, 1 ♂ N. 6556 in MHNG. SUMATRA, West Sumatra, Palopo Nat. Res., north Bukittinggi, 900 m, 18-20.XI.1989, leg. BLA, 1 ♂ and 1 ♀ N. 6895-6896 in MHNG, 1 ♀ N. 6897 in AC; Jambi, Km 12 road from Sungaipenuh to Tapan, 1300 m, 9.XI.1989, leg. BLA, 1 ♂ N. 6898 in MHNG; Aceh, Mt. Leuser Nat. Park, Ketambe Res.Stat., 1000 m, 28-29.XI.1989, leg. BLA, 1 ♀ N. 6899 in MHNG. JAVA, Cibodas Bot. Gasden, near Cipanas, 50 Km east Bogor, 3-6.XI.1989, leg. BLA, 1 ♂ N. 6900 in MHNG, 1 ♂ N. 6901 in AC.

Further material: BORNEO, Sabah, Mt Kinabalu Nat Park, Poring Hot Springs, eastern Ridge trail, 850 m, 28.VIII.1988, leg. Smetana, 1 ♀ in MHNG.

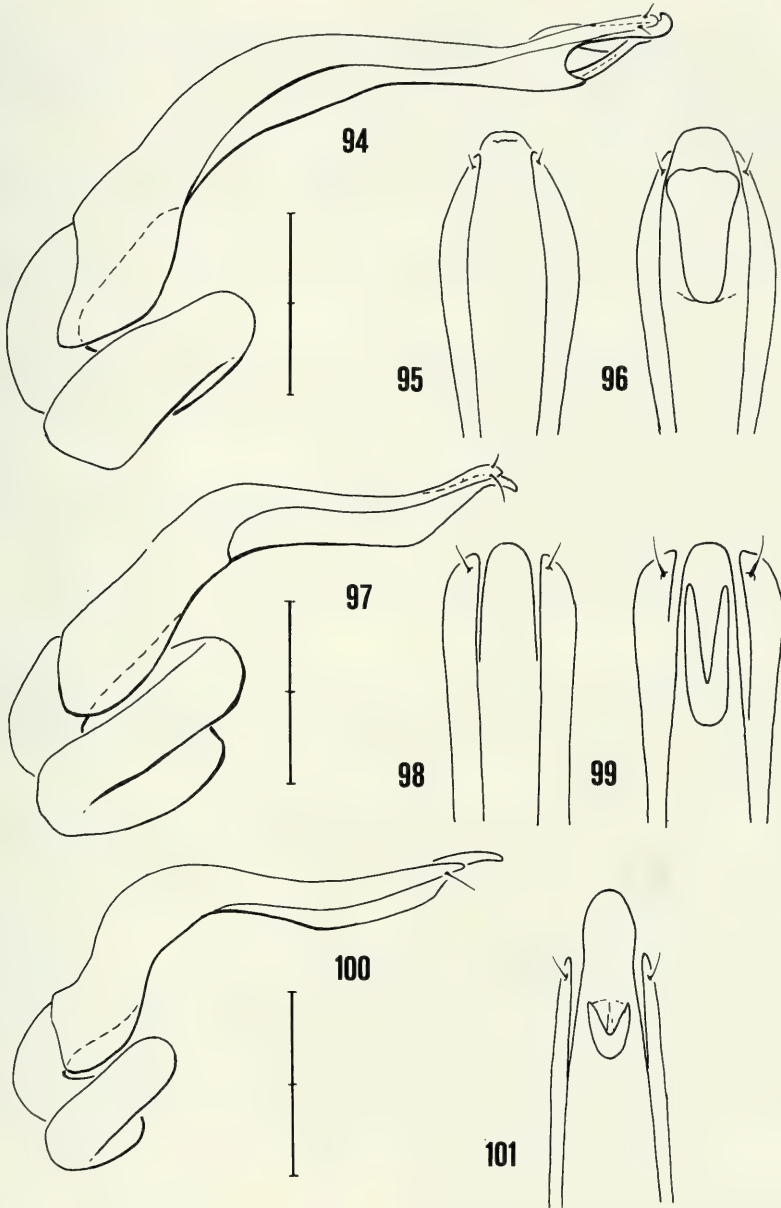
Collecting methods: Sifting plant debris and fungi in a ravine and at the foot of old trees in forest of Dipterocarpaceae; sifting plant debris in a very damp ravine in *Lithocarpus-Castanopsis-Podocarpus* forest.

Distribution: Malaysia (Borneo: Sabah), Indonesia (Sumatra and Java).

Agathidium (Microceleble) quadrimaculatum n. sp.

Figures 65, 83, 84, 92

Length 2.5-2.9 mm (holotype ♂: 2,55 mm). Dorsum black with two or one reddish spots on pronotum and two spots on elytra (one on each elytron) extending from the humeral angle to apex; mesosternum reddish-brown, metasternum black; antennae testaceous, darker at segment 8-10; legs reddish-brown. Microsculpture absent, puncturation distinct on head and pronotum, very fine on elytra.



FIGS 94-101

Male copulatory organ (lateral view, dorsal and/or ventral view of its apex) of: 94-96, *A. nebulosum* n. sp.; 97-99, *A. abiectum* n. sp.; 100-101, *A. abruptum* n. sp. Scale: 1 division = 0,1 mm (referred to the lateral view).

Head: Punctures small, well impressed, spaced from each other by 2-4 times their own diameter. Widest at eyes; eyes protuberant; antero-lateral margins distinctly raised up; a small pit at each side of clypeus; clypeal bordered by an uninterrupted crest. 3rd antennal segment as long as the 2nd and shorter than 4th+5th; Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Punctures as small as those of head, spaced from each other by 1-8 times their own diameter. 1,85 times as broad as head, moderately broader than long ($W/L = 1,51$) and moderately convex ($W/H = 1,5$). Anterior margin weakly bent; lateral outline broadly bent. Holotype: length 0,85 mm, width 1,29 mm, height 0,85 mm.

Elytra: Punctures smaller and more superficial than those of head, spaced from each other by 2-10 times their own diameter moderately, broader than pronotum, moderately broader than long ($W/L = 1,11$) and moderately convex ($W/H = 1,71$); lateral outline with weak humeral angle; sutural striae absent. Holotype: length 1,20 mm, width 1,34 mm, height 0,78 mm.

Metathoracic wings present. Meso- and metasternum: median carina present, lateral lines absent, femoral lines incomplete; a small tubercle between the metacoxae.

Legs: Male hind femora untoothed (fig. 65). Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.

Male copulatory organ (figs 83-84): Aedeagus slender, with spiral-like proximal part, lateral margins gently convergent towards a rounded apex, bifid ventral piece. Parameres slender, tapered at half of their length.

Spermatheca (fig. 92). Basal part globose, with a tubercle at the duct connection; apical part slender.

Discussion: *A. quadrimaculatum* n. sp. is closely related to *A. nebulosum* n. sp. and *A. abiectum* n. sp. owing to the presence of clypeal crest, dorsum not microreticulate and ratio 3rd/2nd in antennal segments. Its identification must be based on the copulatory organ.

Holotype ♂: Borneo, Sabah, Kinabalu Park, Mt Kinabalu, Liwagu river, 1500 m, 25.IV.1987, leg. BL, N. 6547 in MHNG.

Paratypes: together with the holotype, 1 ex. N. 6548 in MHNG, 1 ♂ and 1 ♀ N. 6549, 6550 in AC; Mt Kinabalu Natn. Park, Poring Hot Springs, 480 m, 10.V.1987, leg. Smetana, 1 ♀ N. 6964 in MHNG; same locality, Langanan Fall area, 900 m, 14.V.1987, 1 ♀ N. 6963 in AC.

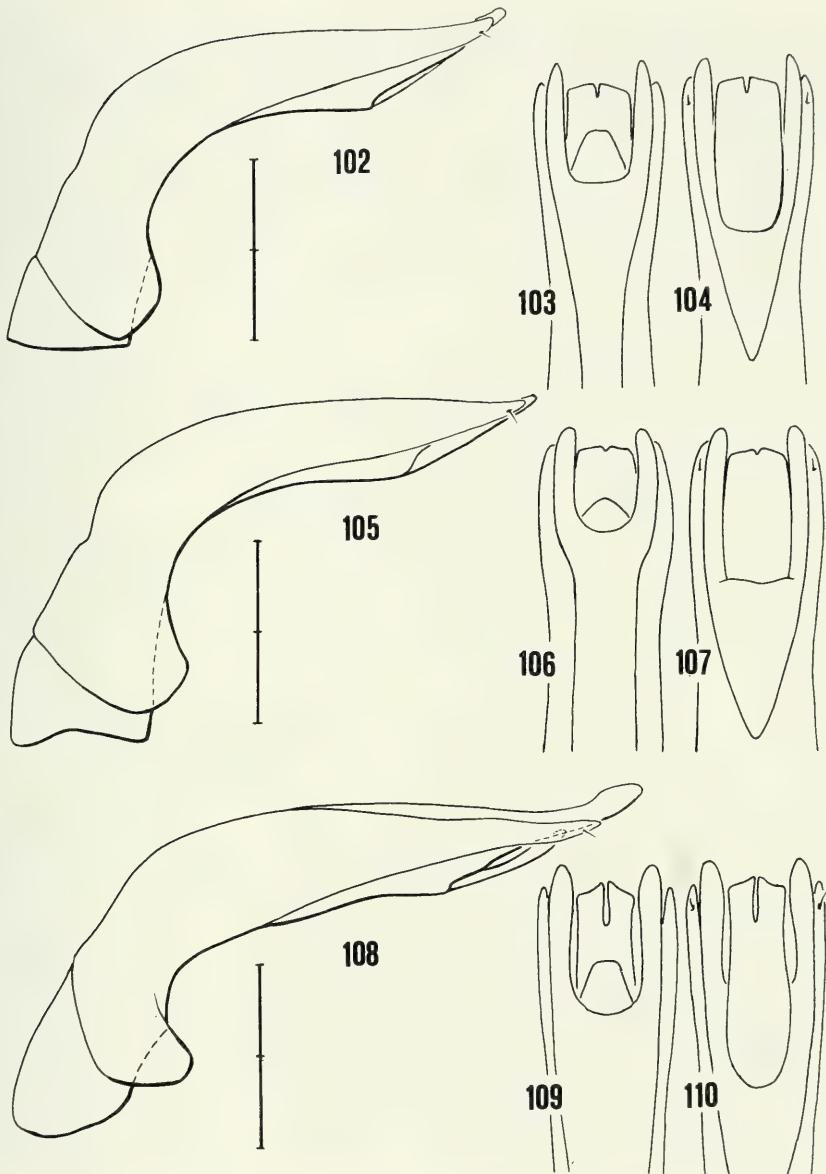
Collecting methods: Sifting fungi, mosses and decaying wood near a stream.

Distribution: Malaysia (Borneo: Sabah).

***Agathidium (Microceble) nebulosum* n. sp.**

Figs 66, 93-96

Length 2,3-2,9 mm (holotype ♂: 2,55 mm). Dorsum either entirely dark reddish-brown or with paler sides; venter reddish-brown; antennae darker at segments 9-10 and at the distal half of segments 7-8; legs reddish-brown. Microsculpture absent; whole dorsum with fine puncturation.



FIGS 102-110

Male copulatory organ (lateral view, dorsal and ventral view of its apex) of: 102-104, *A. darbyi* Ang. & Coot.; 105-107, *A. argutum* n. sp.; 108-110, *A. kinabaluense* n. sp. Scale: 1 division = 0,1 mm (referred to the lateral view).

Head: Punctures small, superficial, spaced from each other by 2-5 times their own diameter. Widest at eyes, eyes protuberant; antero-lateral margins distinctly raised up; a small pit at each side of clypeus; clypeus bordered by an uninterrupted crest. 3rd antennal segment 1,1 times as long as the 2nd and longer than 4th+5th; Hamann's organ: gutter with one vesicle in both 9th and 10th antennal segments.

Pronotum: Punctures smaller than those on head, superficial, spaced from each other by 2-10 times their own diameter. 1,85 times as broad as head; moderately broader than long ($W/L = 1,37$) and moderately convex ($W/H = 1,51$); anterior margin weakly bent; lateral outline broadly bent. Holotype: length 0,90 mm, width 1,24 mm, height 0,82 mm.

Elytra: Punctures as small as those of pronotum, spaced from each other by 5-10 times their own diameter. Weakly broader than pronotum, slightly broader than long ($W/L = 1,08$) and moderately convex ($W/H = 1,72$); lateral outline with weak humeral angle; sutural striae absent. Holotype: length 1,16, width 1,26, height 0,73 mm.

Metathoracic wings present. Meso- and metasternum: median carina present, lateral lines incomplete, femoral lines incomplete.

Legs: Male hind femora untoothed (fig. 66). Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.

Male copulatory organ (figs 94-96): Aedeagus very slender, with ring-like proximal part, lateral margins sinuate, apex truncate, ventral piece not bifid. Parameres slender, gently narrowing towards apex.

Spermateca (fig. 93): Basal part pear-shaped; apical part slender and bent.

Discussion: see discussion of *A. quadrimaculatum* n. sp.; from *A. abiectum* n. sp., *A. nebulosum* n. sp. differs in the width ratio pronotum/head.

Holotype ♂: BORNEO, Sabah, Kinabalu Park, Poring Hot Springs, 500 m, 6.V.1987, leg. BL, N. 6533 in MHNG.

Paratypes: BORNEO, Sabah, Kinabalu Park, Mt Kinabalu, 1550 m, 23.IV.1987, leg. BL, 1 ♂ N. 6534 in AC; same locality, 1500 m, 30.IV-8.V.1987, by interception traps, 1 ♂ N. 7101 in MHNG; same locality, Silau-Silau trail, 1550-1650 m, 24.IV.1987, leg. BL, 1 ♂ N. 6535 in AC, 1 ♀ N. 6536 in MHNG; same locality, 1560 m, 13.VIII.1988, leg. Smetana, 1 ♂ and 2 ♀ N. 6966, 6969, 6970 in MHNG; same locality, Liwagu river, 1500 m, 25.IV.1987, leg. BL; 1 ♂ N. 6537 in MHNG; same locality, 1500 m, 16.V.1987, leg. Smetana, 1 ♀ N. 6967 in MHNG, 1 ♀ N. 6968 in AC; same locality, Liwagu trail, 1750 m, 27.IV.1987, leg. BL, 1 ♂ N. 6538 in MHNG; Crocker Range, Kota Kinabalu-Tambunan road, 1550-1650 m, 16.V.1987, leg. BL, 1 ♀ N. 6539 in MHNG, 1 ♂ N. 6540 in AC; Mt Kinabalu Natn. Park, Poring Hot Springs, Langanan Fall area, 900 m, leg. Smetana, 3 ♂ N. 6971-6973 in MHNG, 2 ♂ N. 6974-6975 in AC.

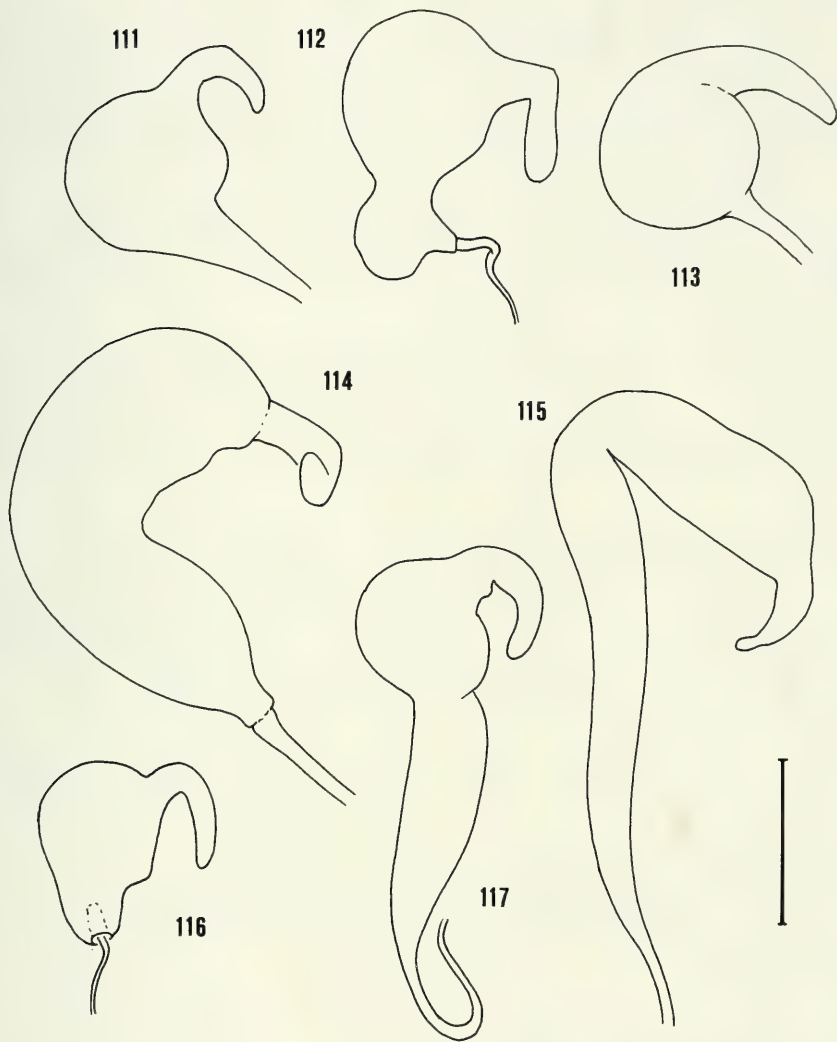
Collecting methods: Sifting plant debris in dry environment; sifting decaying wood, dead leaves, mosses and fungi in a damp ravine near a stream in *Lithocarpus-Castanopsis* forest; sifting barks, decaying wood and fungi in forests of Dipterocarpaceae or *Lithocarpus-Castanopsis*.

Distribution: Malaysia (Borneo: Sabah).

Agathidium (Microceleble) abiectum n. sp.

Figs 67, 97, 98, 99, 111

Length 2,40 mm (holotype ♂). Dorsum uniformly reddish-brown, venter paler; antennae testaceous, darker at segments 9-10 and at the distal half of segment 11; legs



FIGS 111-117

Spermatheca of: 111, *A. abiectum* n. sp.; 112, *A. abruptum* n. sp.; 113, *A. puncticolle* Coot.; 114, *A. argutum* n. sp.; 115, *A. limatum* n. sp.; 116, *A. modiglianii* Ang.; 117, *A. kinabaluense* n. sp. Scale: 1 division = 0,1 mm.

reddish-brown. Microsculpture nearly absent, puncturation fine on head, impressed on pronotum and elytra.

Head: Punctures small, superficial, spaced from each other by 3-5 times their own diameter. Widest at eyes; eyes protuberant; antero-lateral margins raised up; clypeus bordered by an uninterrupted crest. 3rd antennal segment as long as the 2nd and shorter than 4th+5th; Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Punctures larger and more impressed than those of head, spaced from each other by 3-4 times their own diameter. 1.7 times as broad as head, moderately broader than long ($W/L = 1,4$) and very convex ($W/H = 1,35$); anterior margin slightly bent; lateral outline broadly bent. Holotype: length 0,77, width 1,08 mm, height 0,8 mm.

Elytra: Only traces of microreticulation; punctures larger and more impressed than those of head, spaced from each other by 1-3 times their own diameter. As broad as pronotum and very convex ($W/H = 1,71$); lateral outline with weak humeral angle; sutural striae absent. Holotype: length 1,10 mm, width 1,15 mm, height 0,67 mm.

Metathoracic wings present. Meso- and metasternum: median carina present, lateral lines complete, femoral lines incomplete.

Legs: Male hind femora untoothed (fig. 67). Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.

Male copulatory organ (figs 97-99): Aedeagus slender, with spiral-like proximal part, lateral margins gently convergent towards a rounded apex, bifid ventral piece. Parameres enlarged at apex, tapered at half of their length.

Spermatheca (fig. 111): Basal part globose, duct-like towards the duct connection; apical part slender and bent.

Discussion: see discussion of *A. quadrimaculatum* n. sp. and *A. nebulosum* n. sp.

Holotype ♂: SUMATRA, Jambi, Km 15 road from Sungaipenuh to Tapan, 1450 m, 9.XI.1989 leg. BLA, N. 6935 in MHNG.

Paratypes: same locality, 1350 m, 9.IX.1989, 1 ♀ N. 6936 in AC.

Collecting methods: Sifting plant debris in degraded *Lithocarpus-Castanopsis* forest.

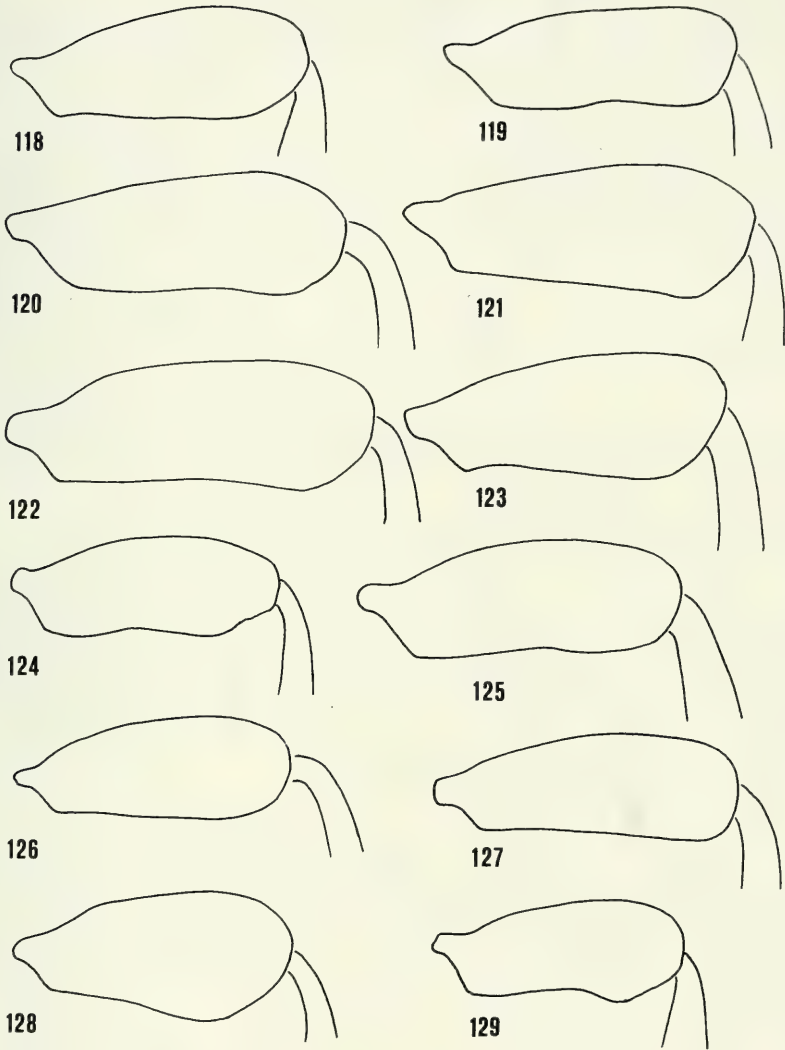
Distribution: Indonesia (Sumatra).

Agathidium (Microceble) abruptum n. sp.

Figs 68, 100, 101, 112

Length 2,0-2,4 mm (holotype ♂: 2,30 mm). Dorsum uniformly reddish-brown, sometimes darker at disc of elytra; venter reddish-brown; antennae testaceous; legs reddish-brown. Microreticulation superficial on head and pronotum, nearly absent on elytra; whole dorsum with fine and sparse puncturation.

Head: Microreticulation superficial and uniform; punctures small, impressed, spaced from each other by 1-4 times their own diameter. Antero-lateral margins distinctly raised up; a small pit and a short groove at each side of clypeus. 3rd antennal



FIGS 118-129

Male hind femur of: 118, *A. amplum* n. sp.; 119, *A. fumosum* n. sp.; 120, *A. opulentum* n. sp.; 121, *A. mirificum* n. sp.; 122, *A. insolitum* n. sp.; 123, *A. jambicum* n. sp.; 124, *A. vulneratum* n. sp.; 125, *A. monticola* n. sp.; 126, *A. javanicum* n. sp.; 127, *A. rufoatrum* n. sp.; 128, *A. nitidum* n. sp.; 129, *A. tersum* n. sp.

segment 1,35 times as long as the 2nd and longer than 4th+5th; Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Microreticulate and punctured as head; 1,9 times as broad as head, moderately broader than long ($W/L = 1,38$) and very convex ($W/H = 1,33$); anterior margin weakly bent; lateral outline broadly bent. Holotype: length 0,72 mm, width 1,00 mm, height 0,75 mm.

Elytra: Only traces of microreticulation; punctures small, impressed, spaced from each other by 1-10 times their own diameter. Moderately broader than pronotum, as broad as long and moderately convex ($W/H = 1,69$); lateral outline with weak humeral angle; sutural striae absent. Holotype: length 1,08 mm, width 1,07 mm, height 0,63 mm.

Metathoracic wings present. Meso- and metasternum: median carina present, lateral lines incomplete, femoral lines incomplete.

Legs: Male hind femora toothed (fig. 68). Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.

Male copulatory organ (figs 100-101): Aedeagus slender, with ring-like proximal part, lateral margins sinuate and convergent towards a rounded apex, bifid ventral piece. Parameres slender, tapering towards apex.

Spermateca (fig. 112): Basal part subglobose, with a secondary enlargement at the duct connection; apical part slender and bent.

Discussion: *A. abruptum* n. sp. is closely related to *A. sarawakense* Ang. & Coot. (1985: 131, Sarawak and Philippines) and *A. cooteri* Ang. & Dmz. (1984: 35, Philippines) owing to presence of microreticulation on pronotum and colour of antennae; from *sarawakense*, it differs only in its clearer head microreticulation; in comparison with *cooteri*, it has the head not striolate, higher ratio 3rd/2nd of antennal segments, male antennal club 3-segmented and smaller size; its male copulatory organ is somewhat different from that of *sarawakense*.

Holotype ♂: BORNEO, Sabah, Kinabalu Park, Poring Hot Springs, 600 m, 10.V.1987, leg. BL, N. 6384 in MHNG.

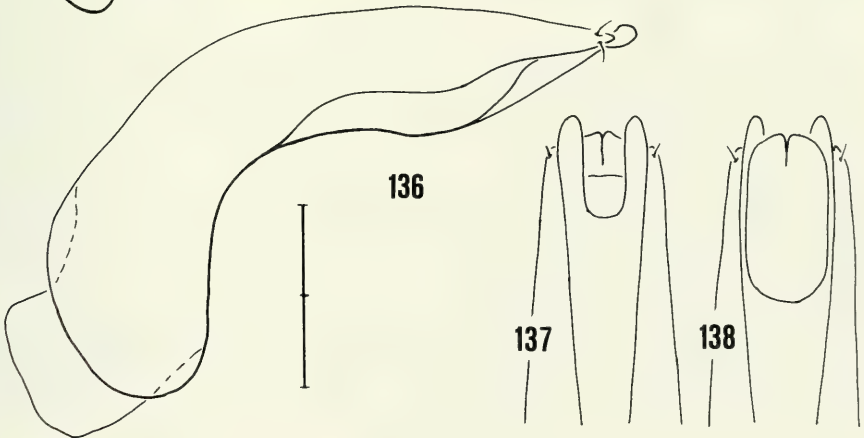
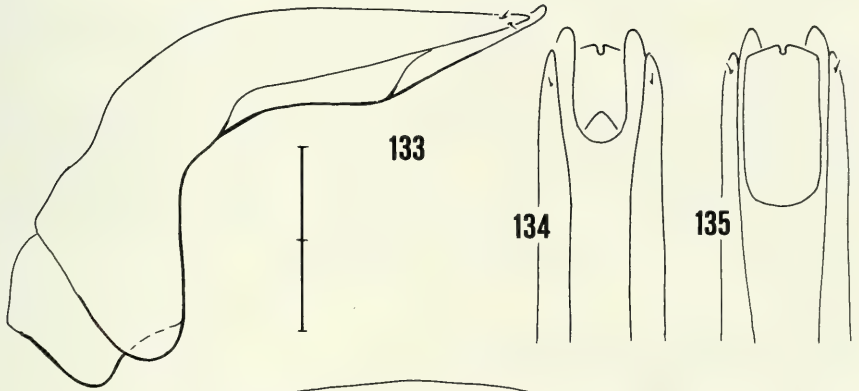
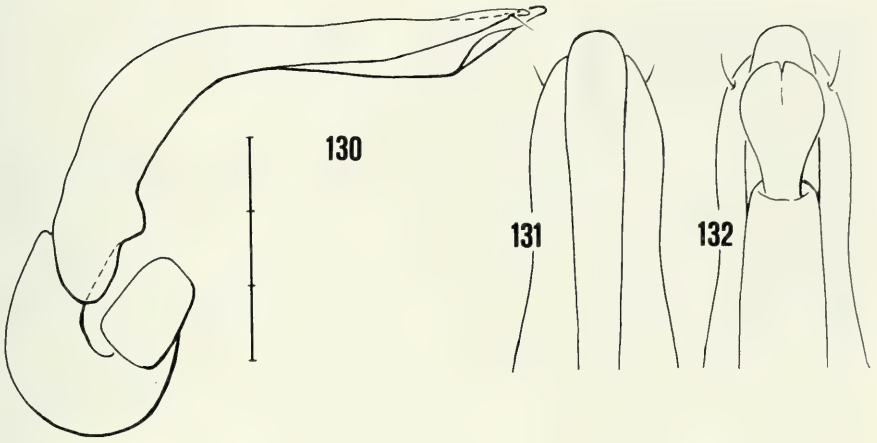
Paratypes: same locality, 550-600 m, 9.V.1987, 1 ♀ N. 6385 in MHNG, 1 ♀ N. 6396 in AC; same locality, 500 m, 13.V.1987, 1 ♂ N. 6387 in AC; same locality, 520 m, 13.V.1987, leg. Smetana, 1 ♀ N. 7023 in MHNG; same locality, Langanan Fall area, 900 m, 14.V.1987, leg. Smetana, 1 ♂ N. 7024 in AC.

Collecting methods: Sifting decaying wood and rotten leaves of bamboos; sifting plant debris in a ravine.

Distribution: Malaysia (Borneo: Sabah).

FIGS 130-138

Male copulatory organ (lateral view, dorsal and ventral view of its apex) of: 130-132, *A. amplum* n. sp.; 133-135, *A. fumosum* n. sp.; 136-138, *A. opulentum* n. sp. Scale: 1 division = 0,1 mm (referred to the lateral view).



Agathidium (Microceble) darbyi darbyi Ang. & Coot.

Figs 69, 102, 103, 104

Agathidium (s. str.) *darbyi* Angelini & Cooter, 1985: 132.*Agathidim* (*Microceble*) *darbyi*, ANGELINI & DE MARZO, 1986: 453

M a t e r i a l : BORNEO, Sabah, Poring Hot Springs, 500 m, 6.V.1987, leg. BL, 15 exx. in MHNG and AC; same locality, 7-11.V.1987, 2 exx. in MHNG; same locality, 480 m, 8.V.1987, leg. Smetana, 2 exx. in MHNG; same locality, 15.V. 1987, 8 exx. in MHNG and AC; same locality, 500 m, 10.V.1987, 13 exx., in MHNG and AC; same locality, Langanan Fall area, 900 m, 14.V.1987, 2 exx., in MHNG; Mt Kinabalu Natn. Park, above Poring Hot Springs, 520 m, 15.VIII.1988, leg. Smetana, 77 exx. in MHNG and AC; same locality, 22.VIII.1988, 29 exx. in MHNG and AC; same locality, 480 m, 19.VIII.1988, 2 exx. in MHNG; same locality, 485 m, 21-29-VIII.1988, 38 exx. in MHNG and AC; same locality, 495 m, 25.VIII.1988, 1 ex. in MHNG; same locality, Eastern Ridge trail, 790 m, 17.VIII.1988, 2 exx. in MHNG. SUMATRA, West Sumatra, Panti, 250 m, 19.XI.1989, leg. BLA, 6 exx. in MHNG and AC; Aceh, Mt Leuser Natn. Park, Ketambe Res. Stat., 300-500 m, 23-30.XI.1989, leg. BLA, 6 exx. in MHNG and AC.

C o l l e c t i n g m e t h o d s : Sifting decaying wood and dead leaves in forest of Dipterocarpaceae; sifting plant debris in lowland swamp forest.

D i s c u s s i o n : *A. darbyi* Ang. & Coot. was described on the basis of three female. Tarsal formula ♂: 5-5-4. Male hind femora: fig. 69. Description of the male copulatory organ (figs 102-104): aedeagus comparatively stout, with proximal part simple, apex deeply excavate, a median protuberance at apex, ventral piece not deeply split. Parameres stout, gently narrowing towards apex. The new specimens agree with the types in colour, microreticulation and puncturation. Length range: 2,50-3,15 mm.

D i s t r i b u t i o n : Philippines, Malaysia (Borneo: Sabah and Sarawak), Indonesia (Sumatra). New record for Sabah and Sumatra.

Agathidium (Microceble) argutum n. sp.

Figs. 70, 105, 106, 107, 114

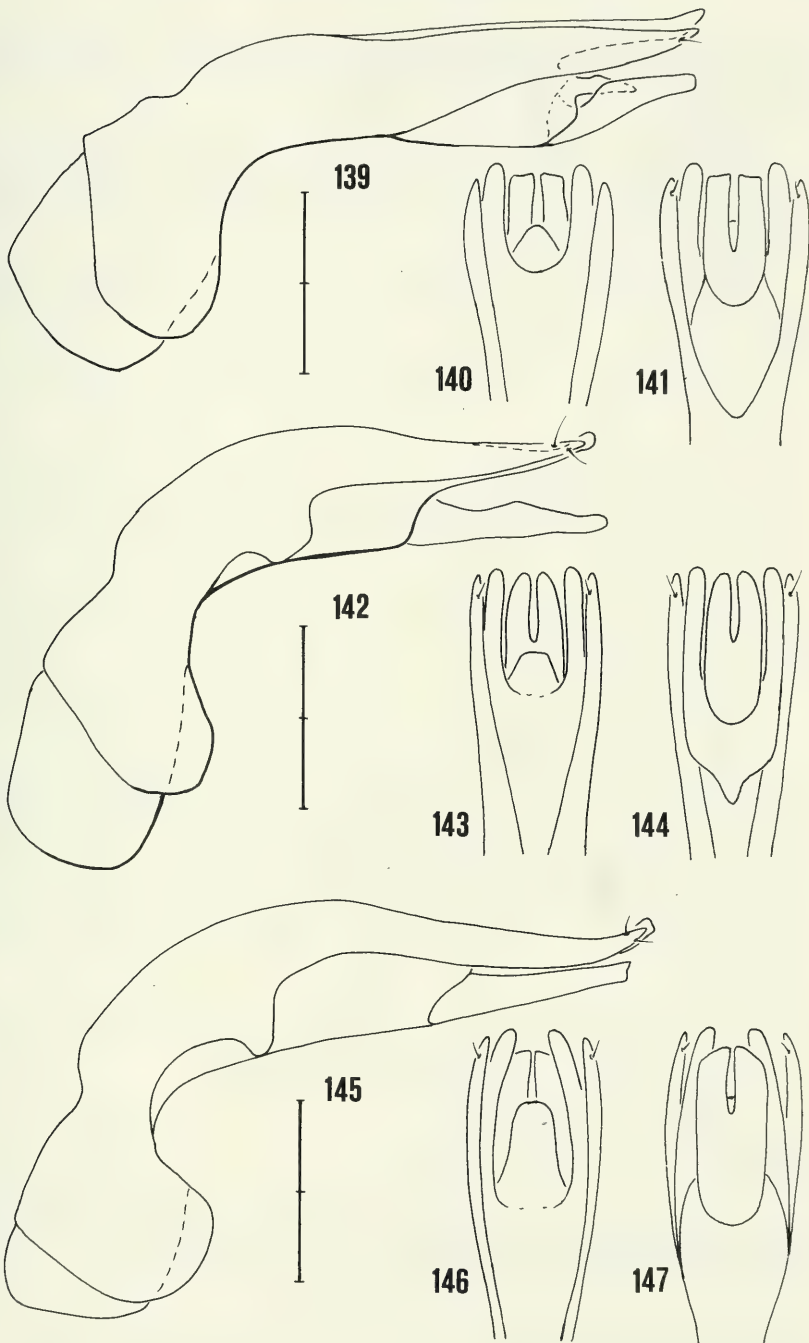
Length 2,6-2,8 mm (holotype ♂: 2,80 mm). Dorsum dark reddish-brown, venter paler; antennae darker at segments 7-10; legs reddish-brown. Head distinctly wrinkled, pronotum with superficial microreticulation; puncturation fine and sparse on head and pronotum, more distinct on elytra.

H e a d : Wrinkles clear and well impressed; punctures small, superficial, spaced from each other by 1-4 times their own diameter. Widest at eyes; eyes protuberant; antero-lateral margins distinctly raised up; one small pit and a short groove at each side of clypeus. 3rd antennal segment 1,2 times as long as the 2nd and shorter than 4th+5th; Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

P r o n o t u m : Microreticulation superficial and uniform; punctures small, impressed, spaced from each other by 1-8 times their own diameter. Twice as broad as

Figs 139-147

Male copulatory organ (lateral view, dorsal and ventral view of its apex) of: 139-141, *A. mirificum* n. sp.; 142-144, *A. insolitum* n. sp.; 145-147, *A. jambicum* n. sp. Scale: 1 division = 0,1 mm (referred to the lateral view).



head, moderately broader than long ($W/L = 1,45$) and very convex ($W/H = 1,34$); anterior margin weakly bent; lateral outline broadly bent. Holotype: length 1,00 mm, width 1,45 mm, height 1,08 mm.

Elytra: Punctures just a little larger than those of pronotum, impressed, spaced from each other by 1-4 times their own diameter. As broad as pronotum, moderately broader than long ($W/L = 1,2$) and very convex ($W/H = 1,42$); lateral outline with weak humeral angle; sutural striae absent. Holotype: length 1,20 mm, width 1,45 mm, height 1,02 mm.

Metathoracic wings present. Meso- and metasternum: median carina present, lateral lines absent, femoral lines incomplete; a small tubercle between the metacoxae.

Legs: Male hind femora with small teeth (fig. 70). Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.

Male copulatory organ (figs 105-107): Aedeagus comparatively stout, with proximal part simple, apex deeply excavate, a median protuberance at apex, ventral piece not deeply split. Parameres stout, gently narrowing towards apex.

Spermateca (fig. 114): Basal part large, very particular in shape; apical part slender and bent.

Discussion: *A. argutum* n. sp. is similar to *A. limatum* n. sp. in most characters; it differs from the latter in the ratio 3rd/2nd of antennal segments, width ratio pronotum/head and shape of male hind femora.

Holotype ♂: BORNEO, Sabah, Kinabalu Park, Poring Hot Springs, 550-600 m, 9.V.1987, leg. BL, N. 6388 in MHNG.

Paratypes: together with the holotype, 1 ♀ N. 6389 in MHNG, 1 ♂ and 1 ♀ N. 6390-6391 in AC; same locality, 500 m, 7.V.1987, 1 ♂ and 1 ♀ N. 6392-6393 in MHNG; same locality, 600 m, 10.V.1987, 1 ♀ N. 6394 in MHNG; same locality, 500 m, 11.V.1987, 1 ♂ N. 6395 in MHNG, 1 ♂ and 1 ♀ N. 6396-6397 in AC; same locality, 520 m, 15.VIII.1988, leg. Smetana, 7 ♂ and 2 ♀ N. 6987-6994, 7110 in MHNG, 2 ♂ and 2 ♀ N. 6995-6998 in AC; same locality, 480 m, 19.VIII.1988, 1 ♂ N. 6999 in MHNG; Kinabalu Park, Langanan Falls, 900-950 m, 12.V.1987, leg. BL, 1 ♂ N. 6398 in MHNG; Crocker Range, est side, 60 Km Kota Kinabalu-Tambunan road, 1270 m, 17.V.1987, leg. BL, 1 ♂ and 1 ♀ N. 6399-6400 in MHNG; Crocher Range, Kibongol valley, 7 Km north Tambunan, 700 m, 20.V.1987, leg. BL, 1 ♂ N. 6401 in MHNG.

Collecting methods: Sifting plant debris of bamboos; sifting plant debris and fungi in forest of Dipterocarpaceae; sifting plant debris in a secondary forest with large *Agathis*.

Distribution: Malaysia (Borneo: Sabah).

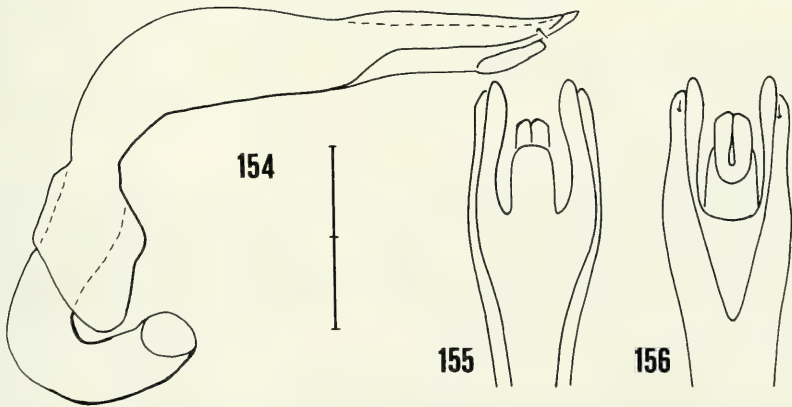
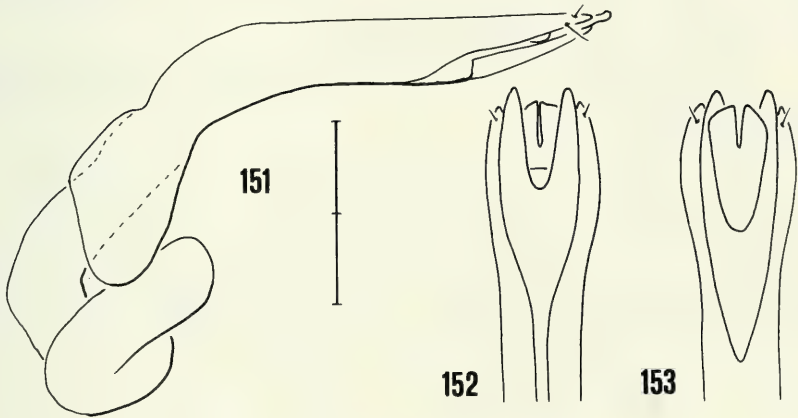
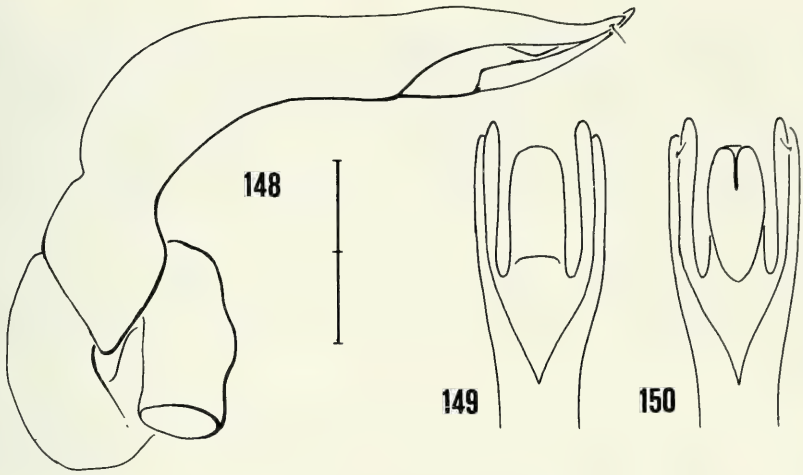
Agathidium (Microcele) limatum n. sp.

Fig. 115

Length 2,6-3,1 mm (holotype ♀: 2,70 mm). Dorsum reddish-brown, elytra darker, venter reddish-brown, paler at mesosternum; antennae darker at segments 7-10;

Figs 148-156

Male copulatory organ (lateral view, dorsal and ventral view of its apex) of: 148-150, *A. vulneratum* n. sp.; 151-153, *A. monticola* n. sp.; 154-156, *A. javanicum* n. sp. Scale: 1 division = 0,1 mm (referred to the lateral view).



legs reddish-brown. Head sculptured (striolate), pronotum microreticulate, elytra with traces of microreticulation; punctures very small and sparse on the whole dorsum.

Head: Whole dorsum striolate; puncturation absent, except some very small punctures on disc. Widest at eyes; eyes protuberant; antero-lateral margins raised up; one short groove at each side of clypeus. 3rd antennal segment 1,5 times as long as the 2nd and longer than 4th+5th; Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Microreticulation superficial, uniform, distinct; puncturation absent, except some very small punctures. 1,93 times as broad as head, moderately broader than long ($W/L = 1,42$) and very convex ($W/H = 1,34$); anterior margin slightly bent; lateral outline with sharp angle. Holotype: length 0,90 mm, width 1,28 mm, height 0,95 mm.

Elytra: Only traces of microreticulation; puncturation absent, except some very small punctures. As broad as pronotum, as broad as long and moderately convex ($W/H = 1,5$); lateral outline with weak humeral angle; sutural striae absent. Holotype: length 1,20 mm, width 1,28 mm, height 0,85 mm.

Metathoracic wings present. Meso- and metasternum: median carina present, lateral lines absent, femoral lines incomplete; a small tubercle between the metacoxae.

Legs: Tarsal formula ♂ not known, ♀ 5-5-4.

Spermatheca (fig. 115): Basal part large, very particular in shape; apical part slender and bent; distal part of the duct sclerotized.

Discussion: see discussion of *A. argutum* n. sp.

Holotype ♀: BORNEO, Sabah, Kinabalu Park, Mt Kinabalu, Poring Hot Springs, eastern Ridge trail, 1000 m, 28.VIII.1988, leg. Smetana, N. 7029 in MHNG.

Paratype: together with the holotype, 1 ♀ N. 7030 in AC.

Distribution: Malaysia (Borneo: Sabah).

***Agathidium (Microceble) modiglianii* Ang.**

Fig. 116

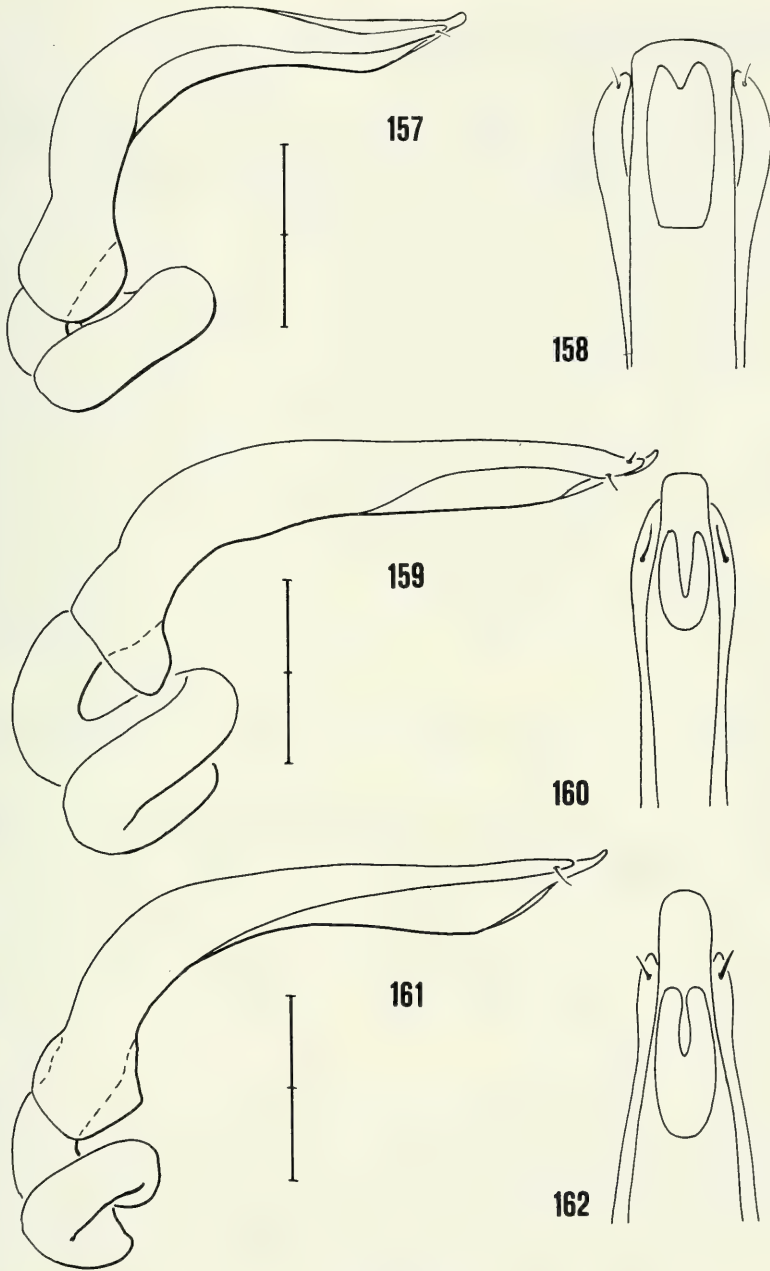
Agathidium (Microceble) modiglianii Angelini, in press.

Material: BORNEO, Sabah, Mt Kinabalu Natn. Park, Poring Hot Springs, 500 m, 10.V.1987, leg. Smetana, 1 ♀ in MHNG, 1 ♀ in AC; same locality, 485 m, 21-29.VIII.1988, 5 ♂ and 1 ♀ in MHNG, 2 ♂ and 1 ♀ in AC; same locality, 495 m, 25.VIII.1988, 1 ♀ in MHNG.

Discussion: This species was described on the basis of a single male specimen from Sumatra. The new specimens agree with the holotype in their taxonomic characters. Female tarsal formula: 5-4-4.

Description of the spermatheca (fig. 116): basal part subglobose, protuberant at the duct connection; apical part slender.

Distribution: Malaysia (Borneo: Sabah), Indonesia (Sumatra). New record for Malaysia.



FIGS 157-162

Male copulatory organ (lateral view, and ventral view of its apex) of: 157-158, *A. rufoatrum* n. sp.; 159-160, *A. nitidum* n. sp.; 161-162, *A. tersum* n. sp. Scale: 1 division = 0,1 mm. (referred to the lateral view).

Agathidium (Microceble) kinabaluense n. sp.

Figs 71, 108, 109, 110, 117

Length 2.4-2.9 mm (holotype ♂: 2.65 mm). Dorsum dark reddish-brown, sometimes black at elytra; venter reddish-brown; antennae testaceous, darker on segments 6-8 and sometimes also segments 4-5; legs testaceous. Head wrinkled; dorsum and elytra not sculptured; whole dorsum with fine and sparse puncturation.

Head: Wrinkled on the whole dorsum; punctures small, superficial, spaced from each other by 2-10 times their own diameter. Widest at eyes; eyes protuberant; anterior margin distinctly raised up; a pit and a short groove at each side of clypeus. 3rd antennal segment 1.15 times as long as the 2nd and shorter than 4th+5th; Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Punctures as large as those of head, spaced from each other by 2-6 times their own diameter. 1.77 times as broad as head; moderately broader than long ($W/L = 1.47$) and very convex ($W/H = 1.33$); anterior margin weakly bent; lateral outline broadly bent. Holotype: length 0.90 mm, width 1.33 mm, height 1.00 mm.

Elytra: Punctures as large as those of pronotum, more superficial, spaced from each other by 4-20 times their own diameter. As broad as pronotum, moderately broader than long ($W/L = 1.15$) and moderately convex ($W/H = 1.66$); lateral outline with weak humeral angle; sutural striae absent. Holotype: length 1.15 mm, width 1.33 mm, height 0.80 mm.

Metathoracic wings present. Meso- and metasternum: median carina present, lateral lines absent, femoral lines incomplete; a small tubercle between the metacoxae.

Legs: Male hind femora simple (fig. 71). Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.

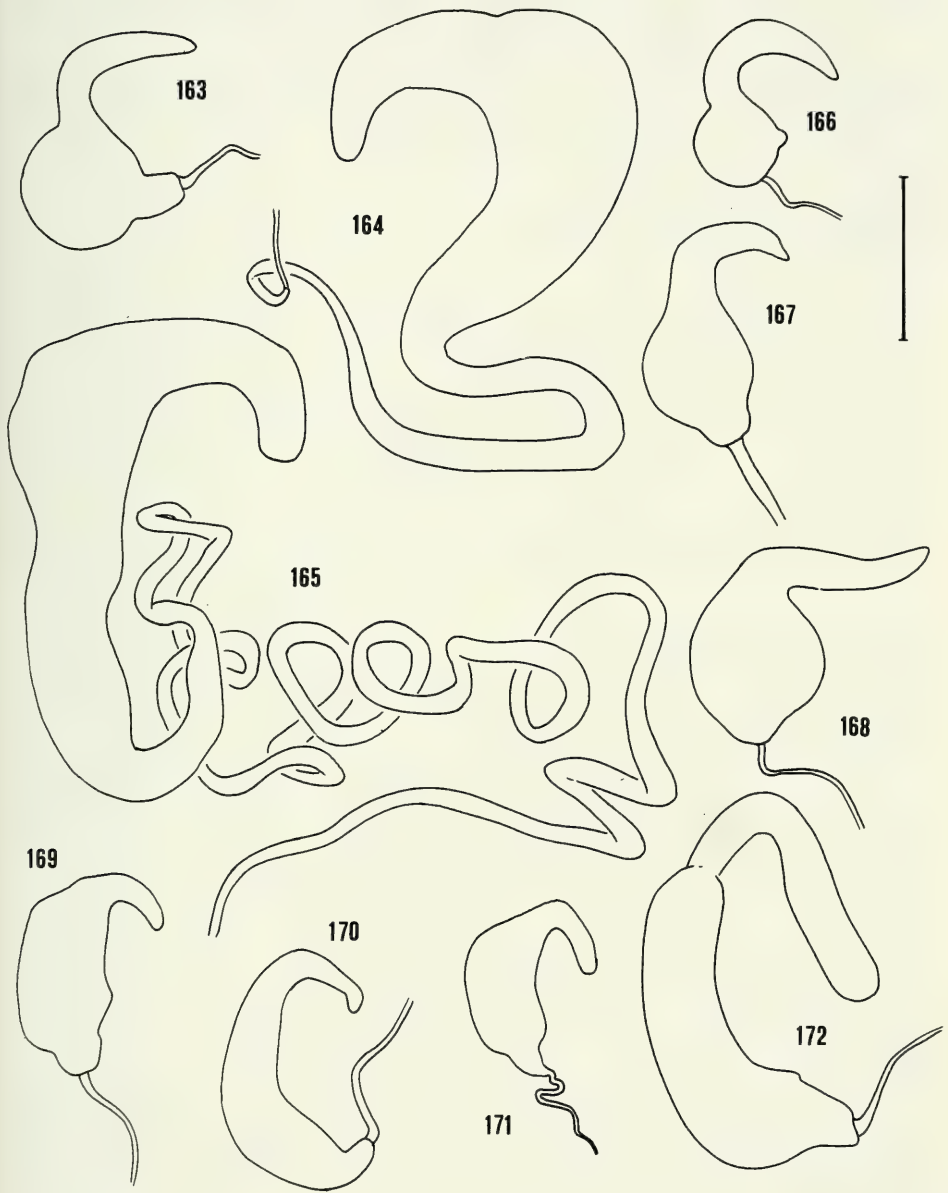
Male copulatory organ (figs 108-110): Aedeagus comparatively stout, with proximal part simple, apex deeply excavate, a median protuberance at apex, ventral piece not deeply split. Parameres stout, gently narrowing towards apex.

Spermateca (fig. 117): Basal part globose, duct-like towards the duct connection; apical part slender and bent; distal part of the duct sclerotized.

Discussion: Within the species that exhibit head entirely striolate, pronotum not microreticulate and body length not exceeding 3 mm, *A. kinabaluense* n. sp. differs in the antenna colour.

Holotype ♂: BORNEO, Sabah, Kinabalu Park, Mt Kinabalu, Liwagu trail, 1500 m, 21.V.1987, leg. BL, N. 6435 in MHNG.

Paratypes: together with the holotype, 27 ♂ and 19 ♀ N. 6559-6604 in MHNG, 7 ♂ and 6 ♀ N. 6605-6617 in AC; same locality, near Liwagu river, 1430 m, 22.V.1987, 1 ♂ N. 6436 in MHNG; same locality, 1550 m, 23.IV.1987, 1 ♂ and 3 ♀ N. 6437-6640 in MHNG; same locality, 1500 m, 25.IV.1987, leg. Smetana, 1 ♀ N. // in MHNG; same locality but Silau-Silau trail, 1550-1650 m, 24.IV.1987, leg. BL, 1 ♂ N. 6441 in MHNG; same locality but 1500 m, 25.IV.1987, 1 ♀ N. 6442 in MHNG; same locality but Liwagu trail, 1540 m, 29.IV.1987, 4 ♂ and 1 ♀ N. 6443-6447 in MHNG, 1 ♂ N. 6448 in AC; same locality but 1500 m, 30.IV.1987, 1 ♀ N. 6449 in MHNG; Crocker Rang, Kota Kinabalu-Tambunan road, 1550-1650 m, 16.V.1987, leg. BL, 4 ♂ and 7 ♀ N. 6450-6460 in MHNG, 1 ♂ and 1 ♀ N. 6461, 6462 in AC; same locality but W side, 51-52 Km Kota Kinabalu-Tambunan road, 1600 m, 18.V.1987, 12 ♂ and 12 ♀ N.



FIGS 163-172

Spermatheca of: 163, *A. amplum* n. sp.; 164, *A. fumosum* n. sp.; 165, *A. opulentum* n. sp.; 166, *A. mirificum* n. sp.; 167, *A. insolitum* n. sp.; 168, *A. jambicum* n. sp.; 169, *A. vulneratum* n. sp.; 170, *A. monticola* n. sp.; 171, *A. javanicum* n. sp.; 172, *A. nitidum* n. sp. Scale: 1 division = 0,1 mm.

6618-6641 in MHNG, 3 ? and 3 / N. 6642-6647 in AC; Mt Kinabalu Ntn. Park, Summit trail, 1890 m, leg. Smetana, 2 ♂ and 4 ♀ N. 6977-6982 in MHNG, 1 ♂ and 1 ♀ N. 6983-6984 in AC.

Further material: BORNEO, Sarawak, 1 ♂ N. 6986 in AC.

Collecting methods: Sifting plant debris in dry environment; sifting decaying wood, mosses fungi and rotten leaves in a very damp ravine in *Lithocarpus-Castanopsis-Podocarpus* forest.

Distribution: Malaysia (Borneo: Sabah).

Agathidium (*Microceble*) *amplum* n. sp.

Figs 5, 118, 130, 131, 132, 163

Length 2,5-3,0 mm (holotype ♂: 2,75 mm). Whole dorsum reddish-brown or black on elytra, lighter at sides; venter light reddish-brown; antennae testaceous, darker at segments 6-10; legs testaceous. Head with superficial wrinkles; pronotum and elytra not sculptured; whole dorsum with superficial and sparse puncturation.

Head: Wrinkles uniform and superficial; punctures small, superficial, spaced from each other by 1-10 times their own diameter. Antero-lateral margins distinctly raised up; a pit and a short groove at each side of clypeus (fig. 5). 3rd antennal segments 1,4 times as long as the 2nd and shorter than 4th+5th; Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Punctures just a little larger than those of head, superficial, spaced from each other by 1-6 times their own diameter. 1,84 times as broad as head, moderately broader than long (W/L = 1,42) and poorly convex (W/H = 1,37); anterior margin sharply bent, lateral outline broadly bent. Holotype: length 0,90 mm, width 1,28 mm, height 0,93 mm.

Elytra: Punctures just a little larger than those of pronotum, more superficial, spaced from each other by 1-10 times their own diameter. Weakly broader than pronotum, as broad as long and moderately convex (W/H = 1,58); lateral outline with weak humeral angle; sutural striae absent. Holotype: length 1,30 mm, width 1,35 mm, height 0,85 mm.

Metathoracic wings absent. Meso- and metasternum: median carina present, lateral lines absent, femoral lines incomplete; a small tubercle between the metacoxae.

Legs: Male hind femora untoothed (fig. 118). Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.

Male copulatory organ (figs 130-132): Aedeagus slender, with twisted proximal part, lateral margins gently convergent towards a rounded apex, ventral piece enlarged and deeply split. Parameres slender, gently narrowing towards apex, embracing the aedeagus.

Spermateca (fig. 163): Basal part subglobose, with a tubercle at the duct connection; apical part slender.

Discussion: Within the species that exhibit an entirely striolate head, pronotum not microreticulate and length not exceeding 3 mm, *A. amplum* n. sp. differs, together with *A. kinabaluense* n. sp., in colour of antennae.

H o l o t y p e ♂ : BORNEO, Sabah, Crocker Range, W side, 51-52 Km Kota Kinabalu-Tambunan road, 1600 m, 18.V.1987, leg. BL, N. 6402 in MHNG.

P a r a t y p e s : together with the holotype, 2 ♂ and 6 ♀ N. 6403-6410 in MHNG, 2 ♂ and 2 ♀ N. 6411-6414 in AC; same locality, east side, Km 60 Kota Kinabalu-Tambunan road, 1350 m, 17.V.1987, 2 ♀ N. 6415-6416 in MHNG; same locality, 1270 m, 3 ♀ N. 6417-6419 in MHNG; same locality, Km 63 Kota Kinabalu-Tambunan road, 1200 m, 19.V.1987, 3 ♂ N. 6420-6422 in MHNG; Kinabalu Park, Mt Kinabalu, 1430 m, 22.V.1987, leg. BL, 1 ♂ and 1 ♀ N. 6423-6424 in MHNG, 1 ♂ and 1 ♀ N. 6425-6426 in AC; same locality, Liwagu trail, 29.IV.1987, 1540 m, 3 ♂ and 2 ♀ N. 6427-6431 in MHNG, 1 ♂ and 2 ♀ N. 6432-6434 in AC; same locality, 1500-1550 m, 27.IV.1987, leg. Smetana, 3 ♂ and 1 ♀ N. 7006-7008, 7107 in MHNG, 2 ♂ N. 7009, 7108 in AC; same locality, 1520 m, 11.VIII.1988, 1 ♀ N. 7106 in MHNG, 1 ♂ N. 7105 in AC; same locality, Head Quarter, Silau-Silau trail, 1560 m, 3.VIII. 1988, leg. Smetana, 1 ♂ and 1 ♀ N. 7017-7018 in MHNG; same locality, Head Quarter, Liwagu River, 1490 m, 5.VIII.1988, leg. Smetana, 2 ♂ and 2 ♀ N. 7010-7013 in MHNG, 2 ♂ and 1 ♀ N. 7014-7016 in AC; same locality, 1500 m, 23.V.1987, 1 ♂ N. 7109 in MHNG; same locality, Poring Hot Springs, 520 m, 22.VIII.1988, leg. Smetana, 2 ♂ and 1 ♀ N. 7019-7021 in MHNG, 1 ♀ N. 7022 in AC.

C o l l e c t i n g m e t h o d s : Sifting plant debris and mosses in *Lithocarpus-Castanopsis* forest; sifting plant debris at the foot of old trees and along a large fallen tree in secondary forest; sifting plant debris in a damp ravine.

D i s t r i b u t i o n : Malaysia (Borneo: Sabah).

Agathidium (Microceble) fumosum n. sp.

Figs 119, 133, 134, 135, 164

Length 2,4-2,7 mm (holotype ♂; 2,40 mm). Dorsum uniformly black, otherwise reddish-brown at head and pronotum and black at elytra; venter reddish-brown; antennae testaceous, darker at segments 7-10; legs light reddish-brown. Head striolate in its anterior half; pronotum and elytra not sculptured; whole dorsum punctured.

H e a d : Striolate on its anterior half; punctures large, superficial, spaced from each other by 0,5-3 times their own diameter. Widest at eyes; eyes protuberant; antero-lateral margins distinctly raised up; clypeal margin weakly excavate; a short groove and a small pit at each side of clypeus. 3rd antennal 1,5 times as long as the 2nd and longer than 4th+5th; Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

P r o n o t u m : Punctures just a little larger than those of head, superficial, spaced from each other by 0,5-2 times their own diameter. 1,74 times as broad as head, moderately broader than long ($W/L = 1,4$) and very convex ($W/H = 1,43$); anterior margin slightly bent; lateral outline broadly bent. Holotype: length 0,82 mm, width 1,15 mm, height 0,80 mm.

E l y t r a : Only traces of microreticulation; puncturation as that of pronotum. As broad as pronotum, moderately larger than long ($W/L = 1,09$) and moderately convex ($W/H = 1,59$); lateral outline with weak humeral angle; sutural striae absent. Holotype: length 1,05 mm, width 1,15 mm, height 0,72 mm.

M e t a t h o r a c i c w i n g s p r e s e n t. Meso- and metasternum: median carina present, lateral lines absent, femoral lines incomplete; a distinct tubercle between the metacoxae.

Legs: Male hind femora untoothed (fig. 119). Tarsal formula ♂ 5-5-4, ♀ 5-4-4.

Male copulatory organ (figs 133-135): Aedeagus comparatively stout, with proximal part simple, apex deeply excavate, a small median protuberance at apex, ventral piece not deeply split. Parameres stout, gently narrowing towards apex.

Spermatheca (fig. 164). Basal part not globose, duct-like and convolute towards the duct; apical part slender and bent.

Discussion: *A. fumosum* n. sp. is very similar to *A. opulentum* n. sp. in habitus and most other characters; it differs from the latter in size and ratio 3rd/2nd of antennal segments.

Holotype ♂: SUMATRA, North Sumatra, 5 Km west Brastagi, Tongkoh, 1450 m, 3.XII.1989, leg. BLA, N. 6802 in MHNG.

Paratypes: together with the holotype, 7 ♂ and 8 ♀ N. 6803-6817 in MHNG, 3 ♂ and 3 ♀ N. 6818-6823 in AC; North Sumatra, 7 Km north Brastagi, 1500 m, 2.XII.1989, leg. BLA, 2 ♂ and 1 ♀ N. 6824-6826 in MHNG, 1 ♂ N. 6827 in AC; Jambi, Mt Kerinci, 1900 m, 13.XI.1989, leg. BLA, 1 ♀ N. 6828 in MHNG, 1 ♂ N. 6829 in AC; Jambi, Km 15 Sungaipenuh-Tapan road, 1450 m, 9.XI.1989, leg. BLA, 1 ♂ N. 6830 in MHNG.

Collecting methods: Sifting plant debris in *Lithocarpus-Castanopsis* forest; sifting plant debris in mixed pine forest.

Distribution: Indonesia (Sumatra).

Agathidium (Microceble) opulentum n. sp.

Figs 120, 136, 137, 138, 165

Length 3,0-3,3 mm (holotype ♂: 3,30 mm). Dorsum uniformly black, except reddish at head and pronotum and black at elytra; venter reddish-brown, paler at mesosternum; antennae darker at segments 9-10, sometimes also at segments 7-8; legs testaceous. Head sculptured (striolate), pronotum and elytra not sculptured; whole dorsum with distinct puncturation.

Head: Whole dorsal surface striolate; punctures large, impressed, spaced from each other by 0,5-1 times their own diameter. Widest at eyes; eyes protuberant; antero-lateral margins raised up; clypeal margin deeply excavate, a short groove at each side of clypeus. 3rd antennal segment 1,35 times as long as the 2nd and as long as 4th+5th; Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Punctures smaller and more superficial than those of head, spaced from each other by 0,5-3 times their own diameter. 1,75 times as broad as head, moderately broader than long ($W/L = 1,42$) and moderately convex ($W/H = 1,57$); anterior margin slightly bent; lateral outline broadly bent. Holotype: length 1,10 mm, width 1,57 mm, height 1,00 mm.

Elytra: Punctures small as those of pronotum, spaced from each other by 0,5-2 times their own diameter. Just a little narrower than pronotum, as broad as long and moderately convex ($W/H = 1,68$); lateral outline with very weak humeral angle; sutural striae absent. Holotype: length 1,50 mm, width 1,52 mm, height 0,90 mm.

Metathoracic wings present. Meso- and metasternum: median carina present, lateral lines absent, femoral lines incomplete; a small tubercle between the metacoxae.

Legs: Male hind femora untoothed (fig. 120). Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.

Male copulatory organ (figs 136-138): Aedeagus comparatively stout, with proximal part simple, apex deeply excavate, ventral piece split. Parameres stout, narrowing sinuously towards apex.

Spermatheca (fig. 165): Basal part irregular in shape, without defined border towards the duct; the latter well sclerotized, convolute; apical part slender and bent.

Discussion: see discussion of *A. fumosum* n. sp.

Holotype ♂: SUMATRA, West Sumatra, Palopo Nat. Reserve, 18-20.XI.1989, leg. BLA, N. 6831 in MHNG.

Paratypes: together with the holotype, 8 ♂ and 1 ♀ N. 6832-6840 in MHNG, 2 ♂ and 2 ♀ N. 6841-6844 in AC; West Sumatra, 5 Km SE Payakumbuh, 600 m, 20-21.XI.1989, leg. BLA, 4 ♂ and 4 ♀ N. 6845-6852 in MHNG, 2 ♂ and 1 ♀ N. 6853-6855 in AC; West Sumatra, Padangpanjan, 600 m, 17.XI.1989, leg. BLA, 1 ♀ N. 6856 in MHNG; West Sumatra, Panti, 250 m, 19.XI.1989, leg. BLA, 1 ♂ N. 6857 in AC; North Sumatra, 7 Km north Brastagi, 1500 m, 2.XII.1989, leg. BLA, 1 ♀ N. 6858 in MHNG; Jambi, Km 8 road from Sungaipenuh to Tapan, 1200 m, 9.XI.1989, leg. BLA, 2 ♂ and 5 ♀ N. 6859-6865 in MHNG, 2 ♂ and 1 ♀ N. 6866-6868 in AC; Jambi, Km 15 road from Sungaipenuh to Tapan, 1450 m, leg. BLA, 1 ♀ N. 6969 in MHNG; Jambi, Km 12 road from Sungaipenuh to Tapan, 1350 m, 9.XI.1989, leg. BLA, 3 ♂ and 1 ♀ N. 6870-6873 in MHNG; Aceh, Mt Leuser Natn. Park, Ketambe Res. Stat., 300-500 m, 23-30.XI.1989, 1 ♂ and 1 ♀ N. 6874-6875 in MHNG, 1 ♂ N. 6876 in AC.

Collecting methods: Sifting plant debris of trees and bamboos in a ravine; sifting plant debris in degraded *Lithocarpus-Castanopsis* forest; sifting litter and moldy branches in secondary scrub; sifting plant debris in secondary forest on steep slope; sifting plant debris in abandoned rubber and coffee plantations.

Distribution: Indonesia (Sumatra).

Agathidium (Microceble) laticorne Port.

Agathidium (Cyphocele) laticorne Portevin, 1922:58

Agathidium (s. str.) *laticorne*: HLISNIKOVSKY 1964: 200; ANGELINI & DE MARZO, 1983: 162.

Agathidium (Microceble) laticorne: ANGELINI & DE MARZO 1986: 442

Material: BORNEO, Sabah, Mt Kinabalu Natn. Park, Poring Hot Springs 485 m, 21.VIII.1988, leg. Smetana, 1 ♂ in MHNG, 1 ♀ in AC. SUMATRA, West Sumatra, Panti, 250 m, 19.XI.1989, leg. BLA, 2 ♂ in MHNG; West Sumatra, 5 Km SE Payakumbuh, 600 m, 20-21.XI.1989, leg. BLA, 3 ♂ and 1 ♀ in MHNG and AC.

Collecting methods: Sifting plant debris in lowland swamp forest; sifting plant debris in rubber and coffee plantations.

Distribution: SE Asia, from Pakistan to Thailand, Indonesia and Borneo. New record for Sabah.

Agathidium (Microceble) mirificum n. sp.

Figs 121, 139, 140, 141, 166

Length 2,8-3,5 mm (holotype ♂: 3,25 mm). Dorsum reddish-brown, pronotum and elytra uniformly black or black with reddish sides; venter paler; antennae testa-

ceous, darker at segments 9-10; legs reddish-brown. Whole head dorsum sculptured (striolate); whole dorsum punctured.

Head: Whole dorsum striolate; punctures large, superficial, spaced from each other by 0,5-1 times their own diameter. Widest at eyes; antero-lateral margins raised up; clypeal margin moderately excavate; a short groove and a small pit on each side of clypeus; eyes protuberant. 3rd antennal segment 1,9 times as long as the 2nd and longer than 4th+5th; Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Puncturation as that of head. 1,8 times as broad as head, moderately broader than long ($S/L = 1,36$) and moderately convex ($S/H = 1,4$); anterior margin slightly bent; lateral outline broadly bent. Holotype: length 1,15 mm, width 1,57 mm, height 1,12 mm.

Elytra: Punctures just a little larger than those of head, superficial, spaced from each other by 0,5-3 times their own diameter. Just a little broader than pronotum, moderately broader than long ($W/L = 1,1$) and moderately convex ($W/H = 1,42$); lateral outline with weak humeral angle; sutural striae absent. Holotype: length 1,45 mm, width 1,60 mm, height 0,90 mm.

Metathoracic wings present. Meso- and metasternum: median carina present, lateral lines incomplete, femoral lines incomplete; a distinct tubercle between the metacoxae.

Legs: Male hind femora untoothed (fig. 121). Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.

Male copulatory organ (figs 139-141): Aedeagus comparatively stout, with proximal part simple, apex deeply excavate, a median protuberance at apex, ventral piece deeply split. Parameres stout, gently narrowing towards apex.

Spermatheca (fig. 166): Basal part globose, apical part long, slender and bent.

Discussion: *A. mirificum* n. sp. is very similar to *A. laticorne* Port. (1922: 58; ANGELINI & DE MARZO, 1985: 70, SE Asia) in most characters. The male copulatory organ bears good distinctive features.

Holotype: SUMATRA, West Sumatra, 5 Km SE Payakumbuh, 600 m, 20-21.XI.1989, leg. BLA, N. 6766 in MHNG.

Paratypes: together with the holotype, 4 ♂ and 2 ♀ N. 6767-6772 in MHNG, 2 ♂ and 1 ♀ N. 6773-6775 in AC; Aceh, Mt Leuser Natn. Park, Ketambre Res. Stat., 300-500 m, 23-30.XI.1989, leg. BLA, 4 ♂ and 8 ♀ N. 9776-6787 in MHNG, 2 ♂ and 2 ♀ N. 6788-6791 in AC; Jambi, Km 15 road Sungaipenuh-Tampan, 1450 m, 9.XI.1989, leg. BLA, 1 ♂ N. 6792 in MHNG.

Collecting methods: Sifting plant debris in *Lithocarpus-Castanopsis* forest, rubber and coffee plantations and Dipterocarpaceae forest.

Distribution: Indonesia (Sumatra).

Agathidium (Microceble) insolitum n. sp.

Figs 122, 142, 143, 144, 167

Length 2,8-3,2 mm (holotype ♂: 2,90 mm). Dorsum uniformly black, venter reddish-brown, paler at mesosternum and at sides of metasternum; antennae testaceous,

darker at segments 9-10; legs reddish-brown. Head sculptured (striolate); puncturation distinct on the whole dorsum, sparser on elytra.

Head : Uniformly striolate; punctures large, superficial, spaced from each other by 1-3 times their own diameter. Widest at eyes; antero-lateral margins raised up; clypeal margin weakly excavate, with a one short groove at each side; eyes protuberant. 3rd antennal segment 1,35 times as long as the 2nd and longer than 4th+5th; Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum : Punctures larger than those of head, superficial, spaced from each other by 0,5-2 times their own diameter. 1,75 times as broad as head, moderately broader than long ($W/L = 1,53$) and moderately convex ($W/H = 1,54$); anterior margin slightly bent; lateral outline broadly bent. Holotype: length 0,96 mm, width 1,47 mm, height 0,95 mm.

Elytra : Punctures just a little smaller than those of pronotum, superficial, spaced from each other by 1-4 times their own diameter. As broad as pronotum, moderately larger than long ($W/L = 1,12$) and moderately convex ($W/H = 1,72$); lateral outline with very weak humeral angle; sutural striae absent. Holotype: length 1,31 mm, width 1,47 mm, height 0,85 mm.

Metathoracic wings present. Meso- and metasternum: median carina present, lateral lines absent, femoral lines incomplete; a small tubercle between the metacoxae.

Legs : Male hind femora untoothed (fig. 122). Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.

Male copulatory organ (figs 142-144): Aedeagus comparatively stout, with proximal part simple, apex deeply excavate, a short median protuberance at apex, ventral piece deeply split. Parameres stout, abruptly tapered at half of their length.

Spermateca (fig. 167): Basal part pear-shaped; apical part slender and bent.

Discussion : *A. insolitum* n. sp. can be easily separated from *A. jambicum* n. sp. only on the basis of the shape of male copulatory organ and spermatheca.

Holotype ♂ : JAVA, West Java, Cibodas Bot. Garden near Cipanas, 50 Km SE from Bogor, 1400 m, 3-6.XI.1989, leg. BLA, N. 6754 in MHNG.

Paratypes : together with the holotype, 2 ♂ and 6 ♀ N. 6755-6762 in MHNG, 2 ♂ and 1 ♀ N. 6765 in AC.

Collecting methods : Sifting plant debris in *Lithocarpus-Castanopsis* forest.

Distribution : Indonesia (Java).

Agathidium (Microceble) jambicum n. sp.

Figs 123, 145, 146, 147, 168

Length 2,7-3,1 mm (holotype ♂ : 3,05 mm). Dorsum of head and pronotum reddish-brown, elytra darker, venter reddish-brown, paler at mesosternum; antennae darker at segments 9-10; legs testaceous. Head sculptured (striolate), pronotum and elytra not sculptured; puncturation distinct on the whole dorsum.

Head : Whole dorsum striolate; punctures large, superficial, spaced from each other by 1-10 times their own diameter. Widest at eyes; antero-lateral margins

raised up; one small pit and a short groove at each side of clypeus; eyes protuberant. 3rd antennal segment 1,52 times as long as the 2nd and shorter than 4th+5th; Hamann's organ: gutter with out vesicles in both 9th and 10th antennal segments.

Pronotum: Punctures just a little larger and more impressed than those of head, spaced from each other by 1-4 times their own diameter. 1,7 times as broad as head, moderately broader than long ($W/L = 1,33$) and moderately convex ($W/H = 1,4$); anterior margin slightly bent; lateral outline with sharp angle. Holotype: length 1,05 mm, width 1,40 mm, height 1,00 mm.

Elytra: Punctures as large as those of pronotum, less impressed, spaced from each other by 1-6 times their own diameter. As broad as pronotum, as broad as long and moderately convex ($W/H = 1,62$); lateral outline with very weak humeral angle; sutural striae absent. Holotype: length 1,35 mm, width 1,40 mm, height 0,86 mm.

Metathoracic wings present. Meso- and metasternum: median carina present, lateral lines absent, femoral lines incomplete; a distinct tubercle between the metacoxae.

Legs: Male hind femora enlarged distally (fig. 123). Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.

Male copulatory organ (figs 145-147): Aedeagus comparatively stout, with proximal part simple, apex deeply excavate, a median protuberance at apex, ventral piece deeply split. Parameres stout, abruptly tapered at half of their length.

Spermatheca (fig. 168): Basal part subglobose; apical part slender.

Discussion: see discussion of *A. insolitum* n. sp.

Holotype ♂: SUMATRA, West Sumatra, Padangpanjan, 600 m, 17.XI.1989, leg. BLA, N. 6883 in MHNG.

Paratypes: together with the holotype 1 ♂ and 1 ♀ N. 6884-6885 in MHNG, 1 ♂ and 1 ♀ N. 6886-6887 in AC; Jambi, Km 12 road from Sungaipenuh to Tapan, 1300 m, 9.XI.1989, leg. BLA, 2 ♀ N. 6888-6889 in MHNG; Jambi, Km 15 road from Sungaipenuh to Tapan, 1450 m, 9.XI.1989, leg. BLA, 1 ♀ N. 6891 in MHNG, 1 ♂ N. 6890 in AC; Jambi, west Mt Tujuh Lake, 1400 m, 14.XI.1989, leg. BLA, 1 ♀ N. 6893 in MHNG, 1 ♂ N. 6892 in AC; Jambi, Km 8 road from Sungaipenuh to Tapan, 1200 m, 9.XI.1989, leg. BLA, 1 ♀ N. 6894 in MHNG.

Collecting methods: Sifting plant debris of bamboos in a ravine; sifting litter and moldy branches in secondary scrub; sifting plant debris in degraded *Lithocarpus-Castanopsis* forest.

Distribution: Indonesia (Sumatra).

Agathidium (Microceble) vulneratum n. sp.

Figs 124, 148, 149, 150, 169

Length 2,5-2,6 mm (holotype ♂: 2,50 mm). Dorsum dark reddish-brown, venter reddish-brown, paler at mesosternum; antennae uniformly testaceous or darker at segments 9-10; legs testaceous. Head microreticulate only on clypeus; some traces of microreticulation on pronotum and elytra; fine puncturation on the whole dorsum.

Head: Striolate only on clypeus; punctures small, superficial, distinct, spaced from each other by 2-4 times their own diameter. Widest at eyes; clypeal margin

weakly excavate; antero-lateral margins raised up; one small pit and a short groove at each side of clypeus; eyes protuberant. 3rd antennal segment 1,2 times as long as the 2nd and as long as 4th+5th; Harmann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Only traces of microreticulation in the holotype; punctures larger and more impressed than those of head, spaced from each other by 1-2 times their own diameter. 1,7 times as broad as head moderately broader than long ($W/L = 1,33$) and moderately convex ($W/H = 1,71$); anterior margin slightly bent; lateral outline broadly bent. Holotype: length 0,90 mm, width 1,20 mm, height 0,70 mm.

Elytra: Only traces of microreticulation; punctures as large as those of pronotum, spaced from each other by 1-5 times their own diameter. As broad as pronotum, moderately larger than long ($W/L = 1,09$) and moderately convex ($W/H = 1,71$); lateral outline with very weak humeral angle; sutural striae absent. Holotype: length 1,10 mm, width 1,20 mm, height 0,70 mm.

Metathoracic wings present. Meso- and metasternum: median carina weak, lateral lines absent, femoral lines incomplete; a small tubercle between the metacoxae.

Legs: Male hind femora untoothed (fig. 124). Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.

Male copulatory organ (figs 148-150): Aedeagus slender, with twisted proximal part, apex deeply excavate, a long median protuberance at apex, ventral piece deeply split. Parameres stout, tapered near their apex.

Spermatheca (fig. 169): Basal part subcylindrical, with a tubercle at the duct connection; apical part small and slender.

Discussion: *A. vulneratum* n. sp. is very similar to *A. saundersi* Ang. & Coot. (1985: 37, Singapore, Viet Nam) and *A. manasicum* Ang. & Dmz. (1986: 445, Assam and Thailand) in antenna colour and presence of clypeal sculpture; it differs from them in the width ratio pronotum/head and size.

Holotype ♂: SUMATRA, West Sumatra, Anai Valley Nat. Reserve, 10 Km west Padangpanjan, 200 m, 17.XI.1989, leg. BLA, N. 6911 in MHNG.

Paratypes: together with the holotype, 250 m, 1 ♀ N. 6912 in MHNG, 1 ♀ N. 6913 in AC.

Collecting methods: Sifting plant debris in degraded lowland forests.

Distribution: Indonesia (Sumatra).

Agathidium (Microceble) puncticolle Coot.

Fig. 113

Agathidium (s. str.) *puncticolle* Cooter, 1984: 70

Agathidium (Microceble) puncticolle: ANGELINI & DE MARZO, 1986: 454

Material: BORNEO, Sabah, Mt Kinabalu Natn. Parl., Head Quarter Liwagu River, 1490 m, 5.VIII.1988, leg. Smetana, 1 ♀ in MHNG.

Remarks: The spermatheca of *A. puncticolle* Cooter is figured here for the first time (fig. 113). Due to a mistake by one of us (Angelini), the drawing published by COOTER (l.c., fig. 2.G) refers to the spermatheca of *A. darbyi* Ang. & Cooter.

Distribution: Philippines, Tai Wan, Malaysia (Sabah). New record for Malaysia (Sabah).

Agathidium (Microceble) monticola n. sp.

Figs 125, 151, 152, 153, 170

Length 2,7-2,8 mm (holotype ♂: 2,80 mm). Dorsum uniformly black, or reddish-brown at head and pronotum and black on elytra; venter reddish-brown, mesosternum paler; antennae testaceous, darker at segments 7-10; legs testaceous. Head striolate on clypeus; microreticulation absent on the whole dorsum; punctures very small on head and pronotum.

Head: Striolate only on clypeus; punctures very small, superficial, spaced from each other by 6-10 times their own diameter. Antero-lateral margins raised up; one small pit and a short groove at each side of clypeus. 3rd antennal segment 1,56 times as long as the 2nd and longer than 4th+5th; Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Puncturation as that of head. 1,65 times as broad as head; moderately broader than long ($W/L = 1,46$) and moderately convex ($W/H = 1,55$); anterior margin slightly bent; lateral outline broadly bent. Holotype: length 0,92 mm, width 1,35 mm, height 0,87 mm.

Elytra: Some traces only of microreticulation; punctures sparse and superficial. As broad as pronotum, as broad as long and moderately convex ($W/H = 1,66$); lateral outline with very weak humeral angle; sutural striae absent. Holotype: length 1,27 mm, width 1,35 mm, height 0,81 mm.

Metathoracic wings absent. Meso- and metasternum: median carina present, lateral lines absent, femoral lines incomplete; a distinct tubercle between the metacoxae.

Legs: Male hind femora simple (fig. 125). Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.

Male copulatory organ (figs 151-153): Aedeagus slender, with spiral-like proximal part, apex deeply excavate, ventral piece deeply split. Parameres stout, tapered near their apex.

Spermatheca (fig. 170): Slender, C-shaped.

Discussion: *A. monticola* n. sp. is closely related to *A. javanicum* n. sp. owing to the presence of sculpture on clypeus and absence of metathoracic wings. Male copulatory organ and spermatheca give good distinctive features.

Holotype ♂: JAVA, West Java, Mt Gede, 50 Km SE from Bogor, 2000-2200 m, 5.XI.1989, leg. BLA, N. 6877 in MHNG.

Paratypes: together with the holotype, 3 ♂ N. 6878-6880 in MHNG, 1 ♂ and 1 ♀ N. 6881-6882 in AC.

Collecting methods: Sifting plant debris in *Ericacea* forest.

Distribution: Indonesia (Java).

Agathidium (Microceble) javanicum n. sp.

Figs 126, 154, 155, 156, 171

Length 2,4-2,6 mm (holotype ♂: 2,45 mm). Dorsum uniformly black, venter reddish-brown; antennae testaceous at segments 1-3 and 11, darker at segments 4-10;

legs reddish-brown. Head striolate only on clypeus; punctures very small on head, larger on pronotum and elytra.

Head: Sculptured only on clypeus; punctures very small, distinct, spaced from each other by 1-8 times their own diameter. Widest at eyes; antero-lateral margins raised up; one small pit and a short groove at each side of clypeus; eyes protruberant. 3rd antennal segment 1,6 times as long as the 2nd and as long as 4th+5th; Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Punctures larger than those of head, superficial, spaced from each other by 0,5-2 times their own diameter. 1,75 times as broad as head, moderately broader than long ($W/L = 1,47$) and moderately convex ($W/H = 1,57$); anterior margin slightly bent; lateral outline broadly bent. Holotype: length 0,80 mm, width 1,18 mm, height 0,75 mm.

Elytra: Puncture as large as those of pronotum, sparser, spaced from each other by 2-4 times their own diameter. As broad as pronotum, as broad as long and moderately convex ($W/H = 1,73$); lateral outline with weak humeral angle; sutural striae absent. Holotype: length 1,15 mm, width 1,18 mm, height 0,68 mm.

Metathoracic wings absent. Meso- and metasternum: median carina present, lateral lines absent, femoral lines incomplete; a distinct tubercle between the metacoxae.

Legs: Male hind femora untoothed (fig. 126). Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.

Male copulatory organ (figs 154-156): Aedeagus slender, with hook-like proximal part, apex deeply excavate, a long median protuberance at apex, ventral piece deeply split. Parameres stout, tapered near their apex.

Spermateca (fig. 171): Basal part pear-shaped; apical part short and slender.

Discussion: see discussion of *A. monticola* n. sp.

Holotype ♂: JAVA, West Java, Cibodas Bot. Garden near Cipanas, 50 Km SE from Bogor, 1400 m, 3-6.XI.1989, N. 6713 in MHNG.

Paratypes: together with the holotype, 14 ♂ and 11 ♀ N. 6714-6738 in MHNG, 5 ♂ and 4 ♀ N. 6739-6747 in AC.

Collecting methods: Sifting plant debris in *Lithocarpus-Castanopsis* forest.

Distribution: Indonesia (Java).

Agathidium (Microceble) hammondi Ang. & Coot.

Agathidium (s. str.) *hammondi* Angelini & Cooter, 1985: 130.

Agathidium (*Microceble*) *hammondi*: ANGELINI & DE MARZO, 1986: 454; ANGELINI, in press.

Material: BORNEO, Sabah, Mt Kinabalu Natn. Park, Poring Hot Springs, 485 m, 21-29.VIII.1988, leg. Smetana, 3 ♂ and 7 ♀ in MHNG, 2 ♂ and 2 ♀ in AC. SUMATRA, Aceh, Mt Leuser Natn. Park, Ketambe Res. Stat., 300-500 m, 23-30.XI.1989, leg. BLA, 1 ♀ in MHNG; Aceh, Selatan prov., Babahrot, 13.VIII.1983, leg. Klapperich, 1 ♂ in AC.

Collecting methods: Sifting plant debris in lowland forest of Dipterocarpaceae.

Distribution: Singapore, Malaysia (Sarawak and Sabah), Indonesia (Sumatra). New record for Sabah.

Agathidium (Microceble) rufoatrum n. sp.

Figs 127, 157, 158

Length 2,75 mm (holotype ♂). Head black, pronotum reddish-brown, darker along the posterior margin, elytra reddish-brown; mesosternum testaceous, metasternum reddish-brown; antennae darker at segments 6-11; legs reddish-brown. Microsculpture absent; puncturation fine and sparse on head and pronotum, absent on elytra.

Head: Punctures small, superficial, spaced from each other by 3-10 times their own diameter. Antero-lateral margins raised up; a small pit and a short groove at each side of clypeus. 3rd antennal segment 1,3 times as long as the 2nd and longer than 4th+5th; Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Puncturation as that of head. Twice as broad as head, moderately broader than long ($W/L = 1,51$) and very convex ($W/H = 1,43$); anterior margin weakly bent; lateral outline broadly bent. Holotype: length 0,88, width 1,33 mm, height 0,93 mm.

Elytra: Puncturation nearly absent: only some very small punctures. As broad as pronotum, as broad as long and moderately convex ($W/H = 1,5$); lateral outline with weak humeral angle; sutural striae absent. Holotype: length 1,30, width 1,32 mm, height 0,88 mm.

Metathoracic wings present. Meso- and metasternum: median carina weak, lateral lines incomplete, femoral lines incomplete; a small tubercle between the metacoxae.

Legs: Male hind femora simple (fig. 127). Tarsal formula: ♂ 5-5-4, ♀ not known.

Male copulatory organ (figs 157-158): Aedeagus slender, with ring-like proximal part, apex truncate, ventral piece bifid. Parameres slender, tapering towards apex.

Discussion: Within the species with black antennal club and ratio 3rd/2nd in antennal segments = 1,2-1,65, *A. rufoatrum* n. sp. differs on the basis of the colour of antennae.

Holotype ♂: BORNEO, Sabah, Kinabalu Park, Mt Kinabalu, Silau-Silau trail, 1550-1650 m, 24.IV.1987, leg. BL, N. 6463 in MHNG.

Collecting methods: Sifting decaying wood and dead leaves in a very damp ravine in *Lithocarpus-Castanopsis* forest.

Distribution: Malaysia (Borneo: Sabah).

Agathidium (Microceble) angelinii Coot.

Agathidium (s. str.) *angelinii* Cooter, 1984: 69

Agathidium (*Microceble*) *angelinii*: ANGELINI & DE MARZO, 1986: 453; Angelini, in press.

Material: BORNEO, Sabah, Kinabalu Natn. Park, Poring Hot Springs, 550-600 m, 9.V.1987, leg. BL, 1 ♂ and 1 ♀ in MHNG, 1 ♂ in AC.

Collecting methods: Sifting decaying wood and dead leaves of bamboos in forest of Dipterocarpaceae.

Distribution: Philippines, Malayasia (sabah). New record for Malaysia.

Agathidium (Microceble) nitidum n. sp.

Figs 128, 159, 160, 172

Length 2,5-2,8 mm (holotype ♂: 2,55 mm). Dorsum uniformly black; venter reddish-brown, paler at mesosternum; antennae testaceous darker at segments 7-10; legs testaceous. Microsculpture absent; puncturation regular and distinct on the whole dorsum.

Head: Punctures large and impressed, spaced from each other by 1-3 times their own diameter. Widest at eyes; eyes protuberant; clypeus weakly excavate, with one pit and a short groove at each side. 3rd antennal segment 1,6 times as long as the 2nd and longer than 4th+5th; Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Puncturation as that of head. 1,81 times as broad as head, moderately broader than long ($W/L = 1,41$) and moderately convex ($W/H = 1,59$); anterior margin slightly bent; lateral outline broadly bent. Holotype: length 0,81, width 1,20, height 0,72.

Elytra: Punctures just a little larger than those of head, spaced from each other by 1-3 times their own diameter. As broad as pronotum, as broad as long and very convex ($W/H = 1,41$); lateral outline with weak humeral angle; sutural striae absent. Holotype: length 1,20 mm, width 1,20 mm, height 0,85 mm.

Metathoracic wings present. Meso- and metasternum: median carina weak. lateral lines complete, femoral lines incomplete.

Legs: Male hind femora enlarged distally (fig. 128). Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.

Male copulatory organ (figs 159-160): Aedeagus very slender, with spiral-like proximal part, apex truncate, bifid ventral piece. Parameres slender, abruptly narrowing at half of their length.

Spermateca (fig. 172): Both the basal and apical parts slender; the former larger in caliber.

Discussion: *A. nitidum* n. sp. is very similar to *A. tonkinense* Ang. & Coot. (1986: 39, Viet Nam, India-Assam) owing to size, ratio 3rd/2nd of antennal segments and antenna colour. Male copulatory organ gives good diagnostic characters.

Holotype ♂: JAVA, West Java, Mt Gede, 50 Km SE from Bogor, 1400-1600 m, 5.XI.1989, leg. BLA, N. 6895 in MHNG.

Paratypes: together with the holotype, 1 ♀ N. 6896 in AC; same locality, 5-6.XI.1989, 2 ♀ N. 6897-6898 in MHNG.

Collecting methods: Sifting plant debris in *Lithocarpus-Castanopsis* forest.

Distribution: Indonesia (Java).

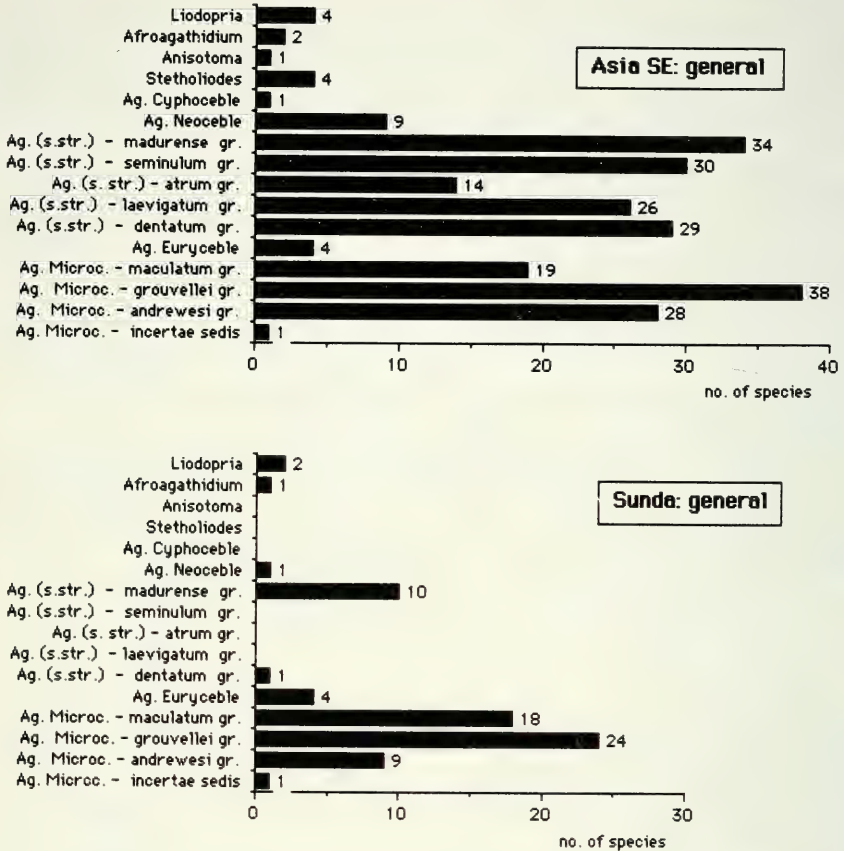
Agathidium (Microceble) tersum n. sp.

Figs 129, 161, 162

Length 2,0-2,3 mm (holotype ♂: 2,05 mm). Dorsum dark reddish-brown; venter reddish-brown; antennae uniformly testaceous or darker at segments 9-10; legs

TABLE 2

Rate among the different species of Anisotomini from both SE Asia and the Sunda Islands as a whole.



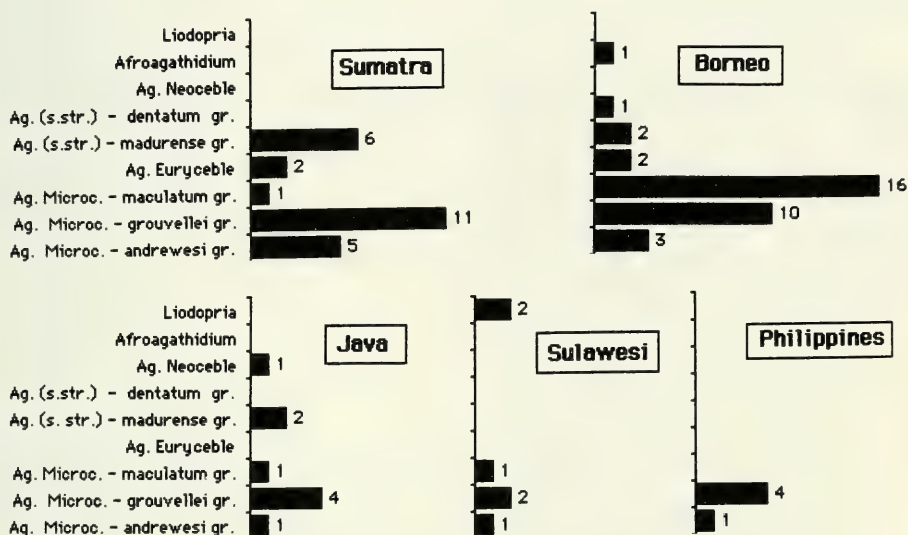
testaceous. Microsculpture nearly absent; puncturation fine and regular on the whole dorsum.

Head: Punctures very small, distinct, spaced from each other by 2-4 times their own diameter. Widest at eyes; eyes protuberant; antero-lateral margins raised up; clypeal margin weakly excavate; one short groove at each side of clypeus. 3rd antennal segment 1,5 times as long as the 2nd and longer than 4th+5th; Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Punctures larger and more impressed than those of head, spaced from each other by 0,5-3 times their own diameter. 1,7 times as broad as head, moderately broader than long ($W/L = 1,43$) and moderately convex ($W/H = 1,5$); anterior margin slightly bent; lateral outline broadly bent. Holotype: length 0,65 mm, width 0,93 mm, height 0,62 mm.

TABLE 3

Rate among the different species of Anisotomini in the single Sunda Islands.



Elytra: With traces of microreticulation; punctures larger and more impressed than those of pronotum, spaced from each other by 2-6 times their own diameter. Jut a little narrower than pronotum, as broad as long and moderately convex ($W/L = 1,5$); lateral outline with very weak humeral angle; sutural striae absent. Holotype: length 0,90 mm, width 0,90 mm, height 0,60 mm.

Metathoracic wings present. Meso- and metasternum: median carina weak, lateral lines complete, femoral lines incomplete.

Legs: Male hind femora enlarged distally (fig. 129). Tarsal formula: ♂ 5-5-4, ♀ not known.

Male copulatory organ (figs 161-162): Aedeagus slender, with spiral-like proximal part, lateral margins sinuate, apex broadly rounded, bifid ventral piece. Parameres slender, gently narrowing towards apex.

Discussion: *A. tersum* n. sp. is similar to *A. capitulum* Ang. & Dmz. (1989: 475, Thailand) in size and colour of antennae; it differs in the ratio 3rd/2nd of antennal segments and width ratio pronotum/head. Male copulatory organ gives good diagnostic characters.

Holotype ♂: SUMATRA, Jambi, Mt Kerinci, 1750-1850 m, 11-12.XI.1989, leg. BLA, N. 6793 in MHNG.

Paratypes: together with the holotype, 1 ♂ N. 6794 in MHNG, 1 ♀ N. 6795 in AC.
 Collecting methods: Sifting plant debris in *Lithocarpus-Castanopsis* forest.
 Distribution: Indonesia (Sumatra).

CONCLUDING REMARKS

The rate among the different taxa of Anisotomini, over the species, is shown in a graphical form in the table 2, referred to both the SE Asia and Sunda Islands as a whole.

It arises that the usual dominance of the genus *Agathidium* is here mainly supported by two taxa: firstly, the subg. *Microceble* and, secondarily, the subg. *Agathidium* s. str. Respectively, the gr. *grouvellei* and the gr. *madurense* predominate in these subgenera. This is true also for Sumatra, whereas different rates (table 3) have been found in the other single islands.

REFERENCES

- ANGELINI F., 1991 - Descrizione di 12 nuove specie di *Agathidium* dell'Asia sudorientale e dell'Isola di Papua (Nuova Guinea) (Coleoptera, Leiodidae). *Mem. Soc. ent. ital.*, 70: 163-179.
- 1992 - *Agathidium* raccolti in Thailandia dal Dr. P. Schwendinger con descrizione di 4 nuove specie (Coleoptera, Leiodidae). *Revue suisse Zool.*, 99: 201-209.
 - in press - *Agathidium* di Sumatra e Birmania conservati nel Museo Civico di Storia naturale di Genova e descrizione di 9 nuove specie. *Ann. Mus. civ. St. nat. "G. Doria" Genova*.
 - in press - New species and records of *Agathidium* from Malaysia (Malaya) and The Philippines. *Coleopt. Bull.*
- ANGELINI F. & J. COOTER, 1985 - Studies on Anisotomini (Coleoptera, Leiodidae) of Sarawak. *Sarawak Mus. J.*, 34: 125-145.
- 1986 - New species and records of the genus *Agathidium* Panzer (Col., Leiodidae) from South-East Asia. *Ent. mon. Mag.*, 122: 37-41.
- ANGELINI F. & L. DE MARZO, 1981 - Reports of *Agathidium* from Himalaya: expeditions of Basel Natural History Museum and Prof. H. Franz (Coleoptera, Leiodidae). *Entomol. Basiliensia*, 6: 187-294.
- 1984 - Descrizione di 13 specie nuove di Anisotomini dell'Asia sudorientale. *Entomologica*, Bari, 19: 23-49.
 - 1986 - *Agathidium* from India and Malaya: expedition of Geneva Natural History Museum (Coleoptera, Leiodidae). *Revue suisse Zool.*, 93: 423-455.
 - 1989 - *Agathidium* from Thailand: expedition 1985 of the Geneva Natural History Museum (Coleoptera, Leiodidae, Anisotomini). *Revue suisse Zool.*, 96: 459-478.
- COOTER J., 1984 - Two new species of *Agathidium* Panzer (Col., Leiodidae) from the Philippines. *Ent. mon. Mag.*, 120: 69-72.
- HLISNIKOVSKY J., 1964 - Monographische Bearbeitung der Gattung *Agathidium* Panzer. *Acta Entomol. Mus. Nat. Pragae*, suppl. 5: 1-255.
- PORTEVIN G., 1922 - Notes sur quelques Silphides et Liodides de la collection Grouvelle. *Bull. Mus. natn. Paris*, 28: 54-58.

INDEX

- abiectum Ang. & Dmz. : 462, 464
 abruptum Ang. & Dmz. : 466
 aequalis Ang. & Dmz. : 454
 aeternum Ang. & Dmz. : 453
 Afroagathidium Ang. & Peck : 426, 431, 491
 Agathidium Panzer : 427, 491
 Agathidium s. str. (subg.) : 427, 491
 agostii Ang. & Dmz. : 437
 amplum Ang. & Dmz. : 478
 andrewesi (group) : 430, 432
 angelinii Coot. : 489
 angulatum Ang. : 431
 Anisotoma : 491
 antennatum Hlissn. : 426, 442
 arcuatum Ang. & Coot. : 444, 446
 argutum Ang. & Dmz. : 470, 474
 asiaticum Ang. & Coot. : 432
 calvum Ang. : 431
 capito Ang. : 442
 capitulum Ang. & Dmz. : 490
 celebense Port. : 426, 432
 collinsi Ang. & Coot. : 431
 cooteri Ang. & Dmz. : 468
 crockerense Ang. & Dmz. : 458
 darbyi darbyi Ang. & Coot. : 470, 485
 darbyi sulawesicum Ang. & Coot. : 432
 darjeelingense Ang. & Dmz. : 435
 dentatum (group) : 427, 431
 Euryceble Hlissn. : 427, 431
 fumosum Ang. & Dmz. : 479, 481
 grouvellei (group) : 429, 432
 grouvellei Port. : 426, 432
 hammondi Ang. & Coot. : 487
 hlisnikovskii Ang. & Dmz. : 436
 illustre Ang. & Dmz. : 440
 Incertae sedis : 432
 indefinitum Ang. & Dmz. : 452
 inelegans Ang. : 438
 insolitum Ang. & Dmz. : 482, 484
 insulare Port. : 426, 432
 interruptum Ang. & Dmz. : 442, 446
 jambicum Ang. & Dmz. : 483
 javanicum Ang. & Dmz. : 486, 487
 kinabaluense Ang. & Dmz. : 476, 478
 kuchingense Ang. : 431
 laticorne Port. : 426, 481, 482
 limatum Ang. & Dmz. : 472
 Liodopria Reitt. : 427, 431, 491
 loeblianum Ang. & Dmz. : 450
 luctuosum Ang. & Dmz. : 430
 luridum Ang. : 432
 maculatum Ang. & Coot. : 431
 maculatum (group) : 428, 431
 madurense (group) : 427, 491
 magnificum Ang. : 453
 malignum Ang. & Dmz. : 458, 460
 manasicum Ang. & Dmz. : 485
 marshalli Ang. & Coot. : 431
 mentawaicum Ang. : 432
 Microceble Ang. & Dmz. : 428, 431, 432, 491
 minusculum Ang. : 432
 mirificum Ang. & Dmz. : 481
 modiglianii Ang. : 474
 monticola Ang. & Dmz. : 486, 487
 montivagum Ang. & Dmz. : 435
 montuosum Ang. & Dmz. : 438, 442
 nebulosum Ang. & Dmz. : 462, 464, 466
 nefandum Ang. : 431
 Neoceble Gozis : 427, 431
 nitidum Ang. & Dmz. : 489
 optatum Ang. & Dmz. : 456
 opulentum Ang. : 480
 poggii Ang. : 432
 puncticolle Coot. : 485
 quadrimaculatum Ang. & Dmz. : 460, 464, 466
 rufoatrum Ang. & Dmz. : 488
 sabahense Ang. & Dmz. : 448, 452
 sarawakense Ang. & Coot. : 468
 saundersi Ang. & Coot. : 485
 siamense Ang. : 435, 436
 subobscurum Ang. & Dmz. : 436
 sulawesis Ang. & Coot. : 431
 sumatrense Ang. & Dmz. : 432
 tersum Ang. & Dmz. : 490
 tonkinense Ang. & Dmz. : 489
 vulneratum Ang. & Dmz. : 484
 wallacei Ang. & Coot. : 431
 watrousi Ang. : 434
 wheeleri Ang. : 434
 xerampelinum Ang. & Dmz. : 444, 445